DOCUMENT RESUME

ED 023 853 VT 006 374

Occupational Employment Statistics--Sources and Data.
Bureau of Labor Statistics (Dept. of Labor), Washington, D.C.
Report No-R-305
Pub Date Jun 66
Note-91p.
EDRS Price MF-$0.50 HC-$4.65
Descriptors-Employment Level, *Information Sources, *Labor Force, *National Surveys, *Occupational Surveys, *Statistical Data

Data on national employment for individual occupations and for selected industries are compiled. Short descriptions of the data sources are also given. Sections are titled (1) Occupational Data Based on Monthly Surveys of Households, (2) Occupation by Industry Statistics from Population Censuses, (3) Occupational Employment Data from Professional Societies, (4) Occupational Employment Data from Surveys of Employers, (5) Occupational Employment Data from Federal Regulatory Agencies, (6) Occupational Employment Data from the Federal Government, (7) Occupational Data from Wage Surveys, and (8) Local Area Occupational Information. Twenty tables give national employment data as reported from these several sources. The appendix contains tabular data for national employment in 1960-65 which was derived from sources other than the decennial census. (EM)

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Report No. 305

ED023853

OCCUPATIONAL EMPLOYMENT STATISTICS

Sources and Data

June 1966

UNITED STATES DEPARTMENT OF LABOR
W. Willard Wirtz, Secretary

BUREAU OF LABOR STATISTICS
Arthur M. Ross, Commissioner

VT006374

PREFACE

This report brings together statistics from various sources on the numbers employed in individual occupations nationwide and in selected industries. Short descriptions of the sources of the data are also provided. The information should be useful to the growing number of researchers and technicians concerned with the changing occupational composition of the labor force and its implications for training programs, counseling, education, and manpower policy.

The report was prepared by Harry Greenspan and Joseph J. Kilgallon under the general direction of Cora E. Taylor, formerly Chief of the Bureau's Division of Occupational Employment Statistics, and Harold Goldstein, Assistant Commissioner for Manpower and Employment Statistics.

OCCUPATIONAL EMPLOYMENT STATISTICS
Sources and Data

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OCCUPATIONAL EMPLOYMENT STATISTICS
Sources and Data

Introduction

Information on employment by occupation is increasingly important in the rapidly changing U.S. economy. Shifts in the demand for goods and services, combined with a changing technology of production, create a strong demand for some occupational skills and a lessening of the need for others. If the economy is to achieve a high growth rate, an adequate supply of workers whose skills match industry needs must be available. Conversely, if workers are to avoid unemployment they must have training in the skills which will be in demand. In order to project occupational requirements and supply so that training programs may be made available, it is necessary, among other tasks, to assess the current number of workers employed in each occupation.

Despite the need, statistics on employment in individual occupations are scanty, particularly in the 10-year intervals between population Censuses. The President's Committee to Appraise Employment and Unemployment Statistics recognized this and recommended "that the Bureau of Labor Statistics proceed to implement its proposed program of developing current employment statistics by occupation." 1/ The information in this bulletin was prepared as part of the exploratory work resulting from the Committee's recommendation.

A comprehensive plan to collect data from employers on the occupational skills of employees is being developed by the Bureau. Industries with relatively high concentrations of occupations requiring specialized training or extensive education are expected, according to present plans, to be surveyed on an annual or biennial basis. Other industries will be covered on a less frequent cycle. Under its new program, the Bureau, using the available statistical sources reviewed in this report and collecting additional data, plans to develop extensive information on employment in individual occupations on a current basis.

The information presented in this publication refers to estimates of employment by occupation for the Nation as a whole and in particular industries representing those which are available for recent years through 1965. Occupational data for local areas, though highly significant for such purposes as employment service operations, determining appropriate occupational training programs, and local economic development planning, are mentioned only briefly because they are not at this time useful in developing national estimates--the focus of this work. The statistics in this report, further, are limited to jobs held by civilians, and, therefore, do not include military personnel. 2/

1/ *Measuring Employment and Unemployment*, report of the President's *Committee to Appraise Employment and Unemployment Statistics*, pp. 202-205.

2/ The *Occupational Outlook Handbook*, issued every 2 years by the BLS contains information on over 700 occupations--many more than this report covers. However, for many of these, the Handbook does not have statistics on the numbers employed, or includes only rough estimates.

Employment data for individual [3] occupations are particularly useful if cross-tabulated by industry. Information on employment by industry is available promptly each month for about 275 sectors of the economy. If the occupational structure of these industries is known for some fairly recent period, the change in total industry employment can provide a good approximation of change in employment for most occupations. Further, historical series showing how the occupational structure of specific industries has been changing over time can be very helpful in estimating the future occupational composition of these industries, and the occupational requirements likely to arise from the anticipated growth or decline of each industry.

Although the information in this study was assembled to aid in planning a program of current occupational employment statistics, the report has been reproduced for circulation because it was believed that a description of existing sources of data would interest many individuals working with occupational statistics. In addition, the Bureau anticipates that circulation of the report may uncover useful sources of occupational data which were missed. To that end, readers who have information on occupational data not mentioned in this bulletin, or who observe any misinterpretation or inadequate description of the data included, are urged to communicate with the Bureau of Labor Statistics.

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[3] The use of the phrases "individual occupation," "specific occupation," or "particular occupation" in this report refers to occupations such as airplane pilot, typist and truck driver, generally occupations which require a distinct set of skills or abilities.

Summary of Available Occupational Data

A resume of the sources of occupational employment statistics, of public or private origin, may help to orient many readers. This is provided in the paragraphs immediately following, while more comprehensive descriptions of each source and detailed statistics are contained in later sections.

The Employment and Earnings and Monthly Report on the Labor Force (EEMRLF) 4/ report issued by the Bureau of Labor Statistics, is the authoritative source of current estimates of total employment and unemployment for the Nation. It also provides estimates each month of total employment distributed among 20 occupational groups and a few specific occupations having sizable employment. Since these estimates of total employment are issued frequently and are current and complete, they are an important measure of the performance of the economy and constitute the best frame of reference against which to measure other data on employment by occupation. The occupational statistics in the report are based on a nationwide sample survey of about 35,000 households. A more inclusive description of the occupational data in that report, and selected statistics therefrom are provided on pages 6 to 15 of this report. 4/

The Decennial Census of Population published by the Bureau of the Census, U.S. Department of Commerce, provides information which the Bureau collects on a sample basis concerning the occupations of persons in the labor force. The Population Census and the EEMRLF provide the only employment estimates which are complete for all classes of workers, including those in agriculture and other self-employed and unpaid family workers, as well as all wage and salary workers. Census tabulations for 1960 classify total employment into 297 occupations or occupational groups. The total in each occupation is cross-classified by other characteristics of the workers as described later in this report. Although information has been tabulated in greater occupational detail for some communities, and for some industries, the Census list of 297 occupations is the most detailed for which statistics have been published on employment by occupation for the entire Nation.

In addition to the EEMRLF, and the Population Census, which provide estimates for total employment, there are a number of sources of data on one or a few occupations, or on the occupational composition of particular industries. These sources may be summarized under five major headings as follows:

4/ The EEMRlf report presents data, which prior to February 1966, were found in two publications--the Monthly Report on the Labor Force (MRLF) and Employment and Earnings.

Membership records and other statistics and reports compiled by professional societies (AMA and others) provide reasonably reliable annual or biennial data on employment in 11 professional occupations which had about 1.2 million workers in 1962. Most of the occupations are in the medical and health field.

Sample surveys made of employers provide estimates of employment in a limited number of important occupations. Such surveys, conducted by the Bureau of Labor Statistics, (originally in cooperation with the National Science Foundation) collect data on employment of scientists, engineers, technicians, and a few other occupations. Other agencies conducting similar surveys collect data on teachers, librarians, and policemen. Employment in the occupations covered by employer surveys was about 4.0 million in 1962.

Employment information filed with the Federal regulatory agencies (e.g., ICC or FCC), for railroads, telephone and telegraph companies, interstate motor carriers, pipelines, and airlines, is a source of useful data on employment in specific occupations for about 800,000 workers. Additional data on employment in broad occupational groups are also available for each industry concerned.

Reports issued by the U.S. Civil Service Commission on employment in the Federal Government provide occupational data for about 2.2 million Federal workers. For many of the employees, however, the published job titles do not permit clear-cut occupational classification without further investigation. About 500,000 Federal employees are in specialized occupations found only in the Post Office.

The Bureau of Labor Statistics surveys of occupational wage rates in metropolitan areas and in specific industries provide partial information on an additional 3 million to 4 million workers identified by occupation and industry. Most of the useful occupational data in these studies apply to occupations common to many industries, such as typists and other office clerical workers, skilled maintenance workers, and materials movement and custodial workers. Further investigation is necessary to evaluate the wage study data for their usefulness in developing estimates of employment by occupation.

In summary, estimates of total employment distributed among about 20 occupational groups and a few occupations with large numbers of workers are published on a current basis in the report, Employment and Earnings and Monthly Report on the Labor Force. In connection with the Decennial Census of Population, the Bureau of the Census collects information on employment, which is then tabulated for about 300 occupations or occupational groups cross-classified in about 150 industries. A variety of other sources of different types contain reliable data on employment by occupation for about 8 million workers; on an unduplicated, ready-to-use basis, however, the number reduces to about 5 million. Including EEMRLF estimates, employment data by individual occupation are available yearly, or every other year on an unduplicated basis, for about 12 million workers, or 19 percent of total nonagricultural employment (in 1962). Detailed data are available for about 60 percent of all professional, technical, and kindred workers, 30 percent of the clerical workers, and smaller proportions of other groups. (See table 1.)

Only a small part of this information adequately specifies the industrial distribution of each occupation. The relatively scant information on the distribution of occupational employment by industry restricts the analytic use of the data in making current estimates, particularly if the data are not very recent, and in projecting estimates of requirements by occupation.

Table 1. Number and Percent of Nonagricultural Workers in Each Broad Occupational Group for Whom Employment Statistics are Available, by Individual Occupation, 1962

Broad occupational group [1]	Number (in millions)	Percent of total employment in group
All groups	[2] 12.0	19
Professional, technical, and kindred workers	4.9	61
Managers, officials, and proprietors	.1	1
Clerical workers	3.1	31
Sales workers	--	0
Craftsmen, foremen, and kindred workers	1.2	13
Operatives and kindred workers	2.4	20
Private household workers	--	0
Other service workers	.2	4
Laborers, except farm and mine	([3])	1

[1] The term "broad occupational group" refers to the socio-economic occupational groups developed by the Census Bureau and used in both the EEMRLF and Census publications. The occupations included in each occupational group are listed in 1960 Census of Population Classified Index of Occupations and Industries. U.S. Department of Commerce, Bureau of the Census

[2] Detail may not add to total because of rounding.

[3] Fewer than 50,000.

The following sections briefly describe each source of occupational employment data and present the detailed statistics available for recent years.

Occupational Data Based on Monthly Surveys of Households

The occupational statistics in Employment and Earnings and Monthly Report on the Labor Force (EEMRLF) are collected for the Bureau of Labor Statistics by the Bureau of the Census in its monthly sample survey of the population. The information collected from about 35,000 households by trained interviewers provides the basis for statistics on total employment, unemployment, employment by occupation, and other characteristics of the labor force. Since 1957, the household survey data have been tabulated to show total employment distributed to more than 20 occupations or occupational groups. Occupational estimates in somewhat less detail have been prepared since 1947. (See table 2.)

Between Census years, the monthly household survey statistics provide the only complete estimates of the number of persons in the labor force--those persons with jobs or seeking work. The self-employed and unpaid family workers, as well as those on payrolls, are included. [5] The data on employment by broad occupational group provide the best means available for assessing the shift of employment from farm and blue-collar work to white-collar work. Because they are the only estimates of total employment made available frequently and on a current basis, they serve as a yardstick for measuring the relative importance (in numbers) of specific occupations or occupational groups for which employment data are obtainable from other sources. Statistics on trends in labor force participation by sex and age group are also the basis for projections of the number of persons who will be seeking work in future periods, and thus indicate the growth in job opportunities that will be needed to keep unemployment at an acceptably low level.

The monthly household survey provides estimates of the number of U.S. residents who are employed, but not of the number of jobs. Some persons work at two or more jobs; others work only part-time at a single job. Special studies made each year yield estimates of the number of workers holding more than one job, together with related statistics. In May 1964, about 3.7 million workers had two or more jobs.

In addition to employment totals, BLS in the EEMRLF publishes estimates of the composition of broad occupational groups by age, sex, color, marital status, unemployment status, duration of unemployment, and average hours worked per week. The Census Bureau, which operates the Current Population

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[5] For a discussion of the procedures underlying the household survey data, see BLS Report 279 and Current Population Reports, Series P-23, No. 13, Concepts and Methods Used in Household Statistics on Employment and Unemployment from the Current Population Survey. Issued jointly by U.S. Department of Labor and U.S. Department of Commerce, June 1964.

Table 2-A. Average Annual Employment by Occupational Group, from Monthly Household Survey, 1957-65

(In thousands)

Occupational group	1965	1964	1963	1962	1961	1960	1959	1958	1957
Total - - - - - - - - - - - -	72,179	70,357	68,809	67,846	66,796	66,681	65,581	63,966	65,016
White-collar workers - - - - -	32,104	31,125	30,182	29,901	29,124	28,726	27,798	27,056	26,451
Professional, technical and kindred workers - - - - -	8,883	8,550	8,263	8,040	7,705	7,475	7,143	6,961	6,468
Medical and other health workers - - - - - - - - - -	1,486	1,405	1,351	1,353	1,328	1,299	1,240	1,247	1,156
Teachers, except college - -	1,881	1,878	1,817	1,713	1,642	1,620	1,500	1,494	1,347
Other professional and technical - - - - - - - -	5,516	5,267	5,095	4,974	4,735	4,555	4,404	4,221	3,968
Managers, officials and proprietors, except farm - -	7,340	7,452	7,293	7,408	7,119	7,067	6,935	6,785	6,703
Salaried workers - - - - -	4,427	4,296	4,148	4,053	3,750	3,524	3,416	3,259	3,044
Self-employed workers in retail trade - - - - - -	1,389	1,474	1,441	1,583	1,664	1,767	1,736	1,770	1,834
Self-employed workers except retail trade - - -	1,524	1,682	1,704	1,773	1,705	1,776	1,783	1,756	1,824
Clerical workers - - - - - -	11,166	10,667	10,270	10,107	9,861	9,783	9,326	9,137	9,152
Stenographers, typists and secretaries - - - - - -	2,880	2,708	2,631	2,511	2,405	2,386	2,320	2,241	2,162
Other clerical workers - -	8,286	7,959	7,639	7,596	7,456	7,397	7,006	6,895	6,999

Table 2-A. Average Annual Employment by Occupational Group, from Monthly Household Survey, 1957-65--Continued

(In thousands)

Occupational group	1965	1964	1963	1962	1961	1960	1959	1958	1957
Sales workers - - - - - - - -	4,715	4,456	4,356	4,346	4,439	4,401	4,394	4,173	4,128
Retail trade - - - - - - -	2,877	2,635	2,582	2,529	2,586	2,591	2,579	2,468	2,488
Other sales workers - - - -	1,838	1,821	1,774	1,817	1,853	1,810	1,815	1,705	1,640
Blue-collar workers - - - - - -	26,466	25,534	24,982	24,278	23,862	24,211	24,162	23,510	24,874
Craftsmen and foremen - - - -	9,221	8,986	8,924	8,678	8,623	8,560	8,561	8,469	8,664
Carpenters - - - - - - - -	850	820	814	812	815	832	846	854	900
Construction craftsmen, except carpenters - - - - -	1,839	1,793	1,796	1,705	1,691	1,722	1,726	1,621	1,675
Mechanics and repairmen - -	2,337	2,226	2,206	2,145	2,122	2,017	2,047	2,076	2,031
Metal craftsmen, except mechanics - - - - - - - - -	1,112	1,091	1,079	1,046	1,021	1,090	1,082	1,048	1,182
Other craftsmen and kindred workers - - - - - - - - -	1,818	1,831	1,786	1,751	1,825	1,762	1,738	1,710	1,709
Foremen, not elsewhere classified - - - - - - -	1,265	1,225	1,243	1,218	1,149	1,137	1,122	1,159	1,168
Operatives - - - - - - - - -	13,390	12,924	12,507	12,041	11,762	11,986	11,858	11,441	12,530
Drivers and deliverymen - -	2,505	2,511	2,446	2,352	2,351	2,375	2,378	2,255	2,330
Other operatives - - - - -	10,885	10,413	10,061	9,689	9,411	9,611	9,479	9,185	10,200
Durable goods mfg. - - -	4,298	3,966	3,862	3,611	3,356	3,477	3,484	3,203	3,802
Nondurable goods mfg. - -	3,700	3,573	3,462	3,314	3,314	3,344	3,215	3,206	3,451
Other industries - - - -	2,887	2,874	2,737	2,764	2,741	2,790	2,780	2,776	2,947

Table 2-A. Average Annual Employment by Occupational Group, from Monthly Household Survey, 1957-65--Continued

(In thousands)

Occupational group	1965	1964	1963	1962	1961	1960	1959	1958	1957
Nonfarm laborers - - - - - -	3,855	3,624	3,551	3,559	3,477	3,665	3,743	3,600	3,680
Construction - - - - - - -	805	787	730	747	750	797	837	806	n.a.
Manufacturing - - - - - -	1,091	1,027	1,003	1,017	986	1,137	1,178	1,079	n.a.
Other industries - - - - -	1,959	1,810	1,818	1,796	1,741	1,730	1,727	1,715	n.a.
Service workers - - - - - - -	9,342	9,256	9,032	8,802	8,640	8,349	8,040	7,809	7,632
Private household workers- -	2,251	2,322	2,306	2,341	2,317	2,216	2,197	2,204	2,098
Service workers except private household workers - -	7,091	6,934	6,726	6,461	6,323	6,133	5,843	5,605	5,534
Protective service workers -	874	891	846	805	775	766	760	741	742
Waiters, cooks and bartenders - - - - - - - - - - -	1,958	1,911	1,866	1,774	1,715	1,676	1,631	1,539	1,589
Other service workers - - -	4,259	4,132	4,014	3,882	3,833	3,690	3,451	3,324	3,204
Farm workers - - - - - - - - -	4,265	4,444	4,615	4,866	5,170	5,395	5,582	5,591	6,059
Farm and farm managers - - -	2,244	2,320	2,396	2,595	2,711	2,780	3,019	3,083	3,329
Farm laborers and foremen- -	2,021	2,124	2,219	2,271	2,459	2,615	2,563	2,508	2,730
Paid workers - - - - - - -	1,249	1,324	1,397	1,382	1,489	1,572	1,454	1,439	1,489
Unpaid family workers - -	772	800	822	889	970	1,043	1,109	1,069	1,242

Table 2-B. Average Annual Employment by Occupational Group, from Monthly Household Survey, 1947-56 1/

(In thousands)

Occupational group	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947
Total - - - - - - - - - -	64,928	62,998	61,160	61,778	60,989	60,854	59,648	58,489	59,307	57,843
White-collar workers - - -	25,597	24,553	23,891	23,614	23,070	22,413	22,373	21,636	21,400	20,185
Professional, technical and kindred workers- -	6,096	5,782	5,588	5,448	5,092	4,788	4,490	4,028	3,977	3,795
Managers, officials, and proprietors, except farm - - - - - - - - -	6,552	6,442	6,201	6,396	6,182	6,220	6,429	6,433	6,344	5,795
Clerical and kindred workers - - - - - - -	8,838	8,359	8,168	7,991	8,122	7,655	7,632	7,438	7,438	7,200
Sales workers - - - - -	4,111	3,970	3,934	3,779	3,674	3,750	3,822	3,737	3,641	3,395
Blue-collar workers - - -	25,179	24,729	24,167	24,991	24,802	25,009	23,336	22,770	23,988	23,554
Craftsmen, foremen and kindred workers - - -	8,693	8,315	8,311	8,588	8,743	8,434	7,670	7,625	8,119	7,754
Operatives and kindred workers - - - - - - -	12,816	12,740	12,253	12,747	12,352	12,623	12,146	11,780	12,396	12,274
Laborers, except farm and mine - - - - - - -	3,670	3,674	3,603	3,656	3,707	3,952	3,520	3,365	3,473	3,526

Table 2-B. Average Annual Employment by Occupational Group, from Monthly Household Survey, 1947-56--Continued

(In thousands)

Occupational group	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947
Service workers	7,609	7,101	6,755	6,949	6,488	6,533	6,535	6,266	6,040	5,987
Private household workers	2,124	1,946	1,760	1,850	1,805	1,869	1,883	1,757	1,754	1,731
Service workers, except private household	5,485	5,155	4,995	5,099	4,683	4,664	4,652	4,509	4,286	4,256
Farm workers	6,544	6,616	6,348	6,224	6,632	6,900	7,408	7,819	7,881	8,120
Farmers and farm managers	3,655	3,782	3,853	3,842	3,963	4,025	4,393	4,703	4,668	4,995
Farm laborers and foremen	2,889	2,834	2,495	2,382	2,669	2,875	3,015	3,116	3,213	3,125

1/ Data for 1947-56 have not been adjusted to reflect changes in the definitions of employment and unemployment adopted in January 1957. On the average, total employment was lowered and unemployment raised by about one-quarter million as a result of the change. The change mainly affected nonagricultural industries, but its impact on any individual category would be relatively small.

Survey (CPS) on which the occupational data in the EEMRLF are based, also publishes data on the broad occupational groups cross-classified by such characteristics as geographic mobility and income, in Series P-20 and P-60, Current Population Reports.

Recently, annual averages of the monthly occupational data for 1963, 1964, and 1965 have been tabulated on an experimental basis at the detailed level used in the 1960 Census of Population publications, or for about 300 categories (occupations or occupational groups). The reliability and usefulness of the results depend on the sampling error, among other things. The standard error of the average of the 12 monthly estimates is about one-half of the error for the monthly estimates shown in table 3. For example, the chances are about two out of three that an annual average estimate of employment in an occupation of 250,000 persons would be within 12,000 of the results that would have been obtained by a complete count. If, for a particular use, a sampling error no larger than 5 percent is specified, only occupations employing 250,000 persons or more would be included. This level includes about 25 occupations, employing about 10 million workers in all, for which data are not now published in the EEMRLF or in other sources, and data on such a group should be an important addition to the information now available if the estimates are found suitable for release (table 4).

Table 3. Standard Error of Level of Monthly Estimates from the Household Survey 1/

(In thousands)

Size of estimate	Size of error
10	5
50	11
100	15
250	25
500	34
1,000	48
2,500	75
5,000	100
10,000	140
20,000	180
30,000	210
40,000	220

1/ The standard error is a measure of sampling variability, that is the variations that might occur by chance because only a sample of the population is surveyed. The chances are about 2 out of 3 that an estimate from the sample would differ from a complete census by less than the standard error. The chances are 19 out of 20 that the difference would be less than twice the standard error.

Source: Employment and Earnings and Monthly Report on the LaborForce, March 1966, p. 98 (U.S. Department of Labor, Bureau of Labor Statistics).

Table 4. Detailed Occupations with Employment of 250,000 or More, April 1960[1/]

Occupation	Employment (in thousands)
Professional workers	
Accountants	471
Engineers	861
Nurses	582
Teachers, elementary schools	1,004
Teachers, secondary schools	518
Clerical and sales workers	
Bookkeepers	913
Cashiers	469
Office machine operators	308
Secretaries	1,464
Shipping and receiving clerks	280
Stenographers	270
Stock clerks and storekeepers	326
Telephone operators	357
Typists	522
Craftsmen, foremen, and kindred workers	
Carpenters	819
Electricians	337
Linemen and servicemen, telephone, telegraph and power	275
Machinists	499
Mechanics and repairmen, auto	682
Painters	371
Plumbers and pipefitters	304
Stationary engineers	270
Operatives and kindred workers	
Attendants, auto service and parking	352
Deliverymen and routemen	420
Laundry and dry cleaning operatives	387
Sewers and stitchers, manufacturing	568
Truck and tractor drivers	1,557
Welders and flame-cutters	361

Table 4. Detailed Occupations with Employment of 250,000 or More, April 1960--Continued

Occupation	Employment (in thousands)
Service workers, except private household	
Attendants, hospital and institution	392
Cooks, except private household	562
Hairdressers and cosmetologists	301
Janitors and sextons	594
Kitchen workers, n.e.c., except private household	304
Policemen and detectives	252
Waiters	825

1/ The employment estimates currently published in the EEMRLF applying to teachers (except those in colleges); stenographers, typists, and secretaries; carpenters; and to drivers and deliverymen, provide data, in the same or somewhat reduced detail. Other sources also provide estimates for engineers, nurses; and linemen and servicemen, telephone, telegraph, and power. Consequently, the net addition to the currently available information on employment by occupation is less than the sum of the employment estimates shown above.

Source: Decennial Census of Population, 1960.

Response error is also a serious problem in a survey which depends frequently on replies of one household member regarding the occupation of the other members--e.g., a housewife's response to a question of her husband's or son's occupation. The respondent may be poorly informed, answer imprecisely, or indulge in upgrading the Job: bricklayer helpers may become bricklayers, accounting clerks may become accountants, and machine tool operators may be upgraded to machinists. It is difficult to assess the importance of this response error in occupational estimates. The extent of the problem is indicated by information, obtained as a test, from employers of 2,000 respondents to the 1960 population Census which is discussed in the next section of this report on page 27. This test of Census occupational data throws some light on the occupational statistics in the EEMRLF as both sets of estimates are obtained by questioning householders.

Brief mention should be made of the industry employment statistics, also published in the EEMRLF, which are based on payroll data collected each month from employers, even though the statistics are almost entirely oriented to employment and related information by industry rather than by occupation. In these statistics, the division of employment in the mining and manufacturing industries into production and nonproduction workers, and in the construction industry into construction and other workers, provides a useful gage of the changing importance of these broad occupational groups, in specific manufacturing and mining industries and in construction. The industry data now published in the EEMRLF, were published separately in Employment and Earnings prior to February 1966.

Occupation by Industry Statistics from The Population Censuses

The major source of information on employment by detailed occupation for the United States has been data gathered during the decennial population censuses. In 1960, every fourth household was asked to supply information on the occupants' social and economic characteristics, including their occupation and industry of employment. Total estimated employment was classified into 297 occupations or occupational groups. The occupations were also cross-tabulated by industry for 149 sectors of the economy. Similar statistics on employment by occupation and industry were also prepared from data gathered during the 1950 Census. Detailed occupational estimates have been developed from the Census since 1870. [6]

Nationwide data for 1960 were cross-classified in either complete or condensed occupational detail, with various characteristics of the worker or his employment, including the following.

- Age
- Sex
- Industry
- Area (regions, States, cities, Standard Metropolitan Statistical Areas, counties, State economic areas, and urban and rural areas)
- Class of worker (wage and salary, self-employed, and unpaid family workers)
- Employment status
- Race
- State of birth
- Educational attainment
- School enrollment
- Marital status
- Hours worked
- Weeks worked
- Earnings and income
- Year last worked
- Size of family
- Family relationship
- Rent of renter-occupied housing
- Place of work (central city, SMSA ring, outside of SMSA of residence)
- Mobility
- Nativity
- Parentage

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[6] For a discussion of census occupational statistics prior to 1950, see reports by Alba M. Edwards, Comparative Occupation Statistics for the United States, 1870 to 1940. U.S. Department of Commerce, Bureau of the Census, and by David L. Kaplan and M. Claire Casey, Occupational Trends in the United States, 1900 to 1950, U.S. Department of Commerce, Bureau of the Census.

Only a single table showing total employment in each occupation in 1950 and 1960 is included in this report (table 5). Of the many Census reports which deal with occupational data, one of the most useful for research into occupational employment is *Occupation by Industry*, which presents the distribution of detailed occupations for 149 industrial sectors of the economy. A number of tables with occupational data for the country as a whole, are in the three reports, *Occupational Characteristics*; *United States Summary, Detailed Characteristics*; and *United States Summary, General Social and Economic Characteristics*. Several of the Series (PC(2) reports present occupational data related to the specific topics such as earnings and education, school enrollment, educational attainment, mobility, nonwhite population by race, Puerto Ricans, and persons of Spanish surname.

In addition to national data, a great deal of information, including occupational data, is published for States and local areas in the Census reports for each State, in selected area reports, and in Census tract reports.

The Census is the only source of information on employment for a relatively detailed list of occupations which is complete for all types of work. The cross-classification of detailed occupation and industry data by the Census for 1950 and 1960 provides a highly useful framework for studies of current and projected employment by occupation. However, because of the nature of the household returns, the diversity and complexity of occupational data, cost restrictions, and the multipurpose requirement of decennial censuses, large blocs of workers are included under very general titles such as those shown below for blocs of 1 million or more.

Census occupation titles	Employment in 1960 (in millions)
Managers, officials, and proprietors (not elsewhere classified) - - - - - - - - - - - - -	4.5
Clerical and kindred workers (not elsewhere classified)	2.9
Salesmen and sales clerks (not elsewhere classified) - - - - - - - - - - - - -	3.7
Foremen (not elsewhere classified) - - - - - - - - - -	1.2
Mechanics and repairmen (not elsewhere classified) - - - - - - - - - - - - -	1.2
Operatives and kindred workers (not elsewhere classified) - - - - - - - - - - - - -	4.6

The cross-classifications of occupations with industries, earnings, and education provide clues to the specific skill requirements of many workers tabulated under one or another of the general titles. For many of the clerical and sales workers, not elsewhere classified, the qualifications for employment uniformly required will be a grade school or high school education only, Nevertheless, the number whose work requires a high school education only, the number who must have some additional special training, and the

Table 5. —DETAILED OCCUPATION OF THE EMPLOYED, BY SEX, FOR THE UNITED STATES: 1960 AND 1950

[See text for source of data. Percent distribution not shown where less than 0.01. Percent increase not shown where less than 0.1 or where base is less than 100. Minus sign (−) denotes decrease]

Detailed occupation	1960						1950						Percent increase, 1950 to 1960		
	Total	Male	Female	Percent distribution			Total	Male	Female	Percent distribution			Total	Male	Female
				Total	Male	Female				Total	Male	Female			
Total, employed	64,639,256	43,466,955	21,172,301	100.00	100.00	100.00	56,435,273	40,662,374	15,772,899	100.00	100.00	100.00	14.5	6.9	34.2
Professional, technical, & kindred wkrs	7,232,410	4,479,358	2,753,052	11.19	10.31	13.00	4,921,272	2,970,200	1,951,072	8.72	7.30	12.37	47.0	50.8	41.1
Accountants and auditors	471,302	392,257	79,045	0.73	0.90	0.37	378,055	322,044	56,011	0.67	0.79	0.36	24.7	21.8	41.1
Actors	9,200	6,007	3,193	0.01	0.01	0.02	14,721	9,629	5,092	0.03	0.02	0.03	-37.5	-37.6	-37.3
Airplane pilots and navigators	26,976	26,811	165	0.04	0.06	...	14,037	13,845	192	0.02	0.03	...	92.2	93.7	-14.1
Architects	30,261	29,496	765	0.05	0.07	...	23,678	22,741	937	0.04	0.06	0.01	27.8	29.7	-18.4
Artists and art teachers	101,852	65,859	35,993	0.16	0.15	0.17	77,710	48,039	29,671	0.14	0.12	0.19	31.1	37.1	21.3
Athletes	4,224	3,888	336	0.01	0.01	...	11,597	10,891	706	0.02	0.03	...	-63.6	-64.3	-52.4
Authors	27,806	20,734	7,072	0.04	0.05	0.03	15,692	9,611	6,081	0.03	0.02	0.04	77.2	115.7	16.3
Chiropractors	14,320	12,917	1,403	0.02	0.03	0.01	12,910	11,067	1,843	0.02	0.03	0.01	10.9	16.7	-23.9
Clergymen	200,999	196,304	4,695	0.31	0.45	0.02	168,124	161,300	6,824	0.30	0.40	0.04	19.6	21.7	-31.2
College presidents, prof'rs, & instr's (n.e.c.)	177,739	138,889	38,850	0.27	0.32	0.18	124,973	95,982	28,991	0.22	0.24	0.18	42.2	44.7	34.0
Dancers and dancing teachers	20,432	4,582	15,850	0.03	0.01	0.07	16,228	4,671	11,557	0.03	0.01	0.07	25.9	-1.9	37.1
Dentists	83,003	81,075	1,928	0.13	0.19	0.01	75,355	73,307	2,048	0.13	0.18	0.01	10.1	10.6	-5.9
Designers	65,856	53,792	12,064	0.10	0.12	0.06	27,766	17,533	10,233	0.05	0.04	0.06	137.2	206.8	17.9
Dietitians and nutritionists	26,119	1,882	24,237	0.04	...	0.11	22,474	1,342	21,132	0.04	...	0.13	16.2	40.2	14.7
Draftsmen	213,369	201,640	11,729	0.33	0.46	0.06	133,076	124,661	8,415	0.24	0.31	0.05	60.3	61.8	39.4
Editors and reporters	100,717	63,279	37,438	0.16	0.15	0.18	71,100	44,342	26,758	0.13	0.11	0.17	41.7	42.7	39.9
Engineers, technical	860,949	853,738	7,211	1.33	1.96	0.03	526,179	519,680	6,499	0.93	1.28	0.04	63.6	64.3	11.0
Aeronautical	51,703	50,895	808	0.08	0.12	...	17,650	17,319	331	0.03	0.04	...	192.9	193.9	144.1
Chemical	41,026	40,637	389	0.06	0.09	...	32,543	31,912	631	0.06	0.08	...	26.1	27.3	-38.4
Civil	155,173	154,293	880	0.24	0.35	...	124,225	122,281	1,944	0.22	0.30	0.01	24.9	26.2	-54.7
Electrical	183,887	182,413	1,474	0.28	0.42	0.01	105,887	104,649	1,238	0.19	0.26	0.01	73.7	74.3	19.1
Industrial	97,458	95,389	2,069	0.15	0.22	0.01	40,278	39,827	451	0.07	0.10	...	142.0	139.5	358.8
Mechanical	158,188	157,660	528	0.24	0.36	...	112,440	111,862	578	0.20	0.28	...	40.7	40.9	-8.7
Metallurgical, and metallurgists	18,459	18,280	179	0.03	0.04	...	12,346	12,105	241	0.02	0.03	...	49.5	51.0	-25.7
Mining	12,084	12,042	42	0.02	0.03	...	14,155	14,046	109	0.03	0.03	...	-14.6	-14.3	-61.5
Sales	56,836	56,664	172	0.09	0.13	...	24,734	24,734	...	0.04	0.06	...	129.8	129.1	...
Not elsewhere classified	86,135	85,465	670	0.13	0.20	...	41,921	40,945	976	0.07	0.10	0.01	105.5	108.7	-31.4
Entertainers (n.e.c.)	10,982	8,559	2,423	0.02	0.02	0.01	15,024	10,672	4,352	0.03	0.03	0.03	-26.9	-19.8	-44.3
Farm and home management advisors	13,417	7,105	6,312	0.02	0.02	0.03	12,294	6,234	6,060	0.02	0.02	0.04	9.1	14.0	4.2
Foresters and conservationists	32,115	31,337	778	0.05	0.07	...	26,234	25,404	830	0.05	0.06	0.01	22.4	23.4	-6.3
Funeral directors and embalmers	36,981	34,724	2,257	0.06	0.08	0.01	39,450	36,802	2,648	0.07	0.09	0.02	-6.3	-5.6	-14.8
Lawyers and judges	212,408	204,974	7,434	0.33	0.47	0.04	181,646	175,375	6,271	0.32	0.43	0.04	16.9	16.9	18.5
Librarians	83,881	12,045	71,836	0.13	0.03	0.34	55,597	6,330	49,267	0.10	0.02	0.31	50.9	90.3	45.8
Musicians and music teachers	191,884	82,246	109,638	0.30	0.19	0.52	154,058	75,947	78,111	0.27	0.19	0.50	24.6	8.3	40.4
Natural scientists	149,330	134,592	14,738	0.23	0.31	0.07	116,918	103,564	13,354	0.21	0.25	0.08	27.7	30.0	10.4
Agricultural scientists	7,895	7,488	407	0.01	0.02	...	6,200	5,870	330	0.01	0.01	...	27.3	27.6	23.3
Biological scientists	13,937	10,217	3,720	0.02	0.02	0.02	9,215	6,524	2,691	0.02	0.02	0.02	51.2	56.6	38.2
Chemists	83,420	76,210	7,210	0.13	0.18	0.03	74,637	67,160	7,477	0.13	0.17	0.05	11.8	13.5	-3.6
Geologists and geophysicists	18,551	18,120	431	0.03	0.04	...	10,598	10,005	593	0.02	0.02	...	75.0	81.1	-27.3
Mathematicians	7,527	5,535	1,992	0.01	0.01	0.01	1,691	1,048	643	...	...	...	345.1	428.1	209.8
Physicists	13,941	13,359	582	0.02	0.03	...	7,422	6,938	484	0.01	0.02	...	87.8	92.5	20.2
Miscellaneous natural scientists	4,059	3,663	396	0.01	0.01	...	7,155	6,019	1,136	0.01	0.01	0.01	-43.3	-39.1	-65.1
Nurses, professional	582,379	14,495	567,884	0.90	0.03	2.68	400,221	9,627	390,594	0.71	0.02	2.48	45.5	50.6	45.4
Nurses, student professional	57,340	800	56,540	0.09	...	0.27	76,426	1,572	74,854	0.14	...	0.47	-25.0	-49.1	-24.5
Optometrists	16,044	15,370	674	0.02	0.04	...	14,635	13,794	841	0.03	0.03	0.01	9.6	11.4	-19.9
Osteopaths	3,940	3,466	474	0.01	0.01	...	5,156	4,370	786	0.01	0.01	...	-23.6	-20.7	-39.7
Personnel and labor relations workers	97,870	67,655	30,215	0.15	0.16	0.14	52,419	37,326	15,093	0.09	0.09	0.10	86.7	81.3	100.2
Pharmacists	92,155	85,026	7,129	0.14	0.20	0.03	88,323	81,028	7,295	0.16	0.20	0.05	4.3	4.9	-2.3
Photographers	51,567	45,393	6,174	0.08	0.10	0.03	52,788	43,657	9,131	0.09	0.11	0.06	-2.3	4.0	-32.4
Physicians and surgeons	228,926	213,413	15,513	0.35	0.49	0.07	192,520	180,768	11,752	0.34	0.44	0.07	18.9	18.1	32.0
Public relations men and publicity writers	30,363	23,358	7,005	0.05	0.05	0.03	18,565	16,607	1,958	0.03	0.04	0.01	63.5	40.7	257.8
Radio operators	28,441	25,484	2,957	0.04	0.06	0.01	16,746	15,201	1,545	0.03	0.04	0.01	69.8	67.6	91.4
Recreation and group workers	36,355	20,858	15,497	0.06	0.05	0.07	16,191	9,428	6,763	0.03	0.02	0.04	124.5	121.2	129.1
Religious workers	56,338	21,239	35,099	0.09	0.05	0.17	41,812	12,775	29,037	0.07	0.03	0.18	34.7	66.3	20.9
Social and welfare workers, exc. group	96,696	36,029	60,667	0.15	0.08	0.29	75,915	23,388	52,527	0.13	0.06	0.33	27.4	54.0	15.5
Social scientists	56,580	42,403	14,177	0.09	0.10	0.07	35,335	23,923	11,412	0.06	0.06	0.07	60.1	77.2	24.2
Economists	19,132	16,352	2,780	0.03	0.04	0.01	8,790	7,172	1,618	0.02	0.02	0.01	117.7	128.0	71.8
Psychologists	12,040	8,298	3,742	0.02	0.02	0.02	4,813	2,705	2,108	0.01	0.01	0.01	150.2	206.8	77.5
Statisticians and actuaries	21,885	15,186	6,699	0.03	0.03	0.03	18,436	11,817	6,619	0.03	0.03	0.04	18.7	28.5	1.2
Miscellaneous social scientists	3,523	2,567	956	0.01	0.01	...	3,296	2,229	1,067	0.01	0.01	0.01	6.9	15.2	-10.4
Sports instructors and officials	76,888	51,957	24,931	0.12	0.12	0.12	45,149	33,966	11,183	0.08	0.08	0.07	70.3	53.0	122.9
Surveyors	43,565	41,870	1,695	0.07	0.10	0.01	25,615	24,668	947	0.05	0.06	0.01	70.1	69.7	79.0
Teachers: Elementary schools	1,003,576	143,163	860,413	1.55	0.33	4.06	674,825	61,692	613,133	1.20	0.15	3.89	48.7	132.1	40.3
Secondary schools	518,014	274,562	243,452	0.80	0.63	1.15	367,9[illegible]	159,189	208,795	0.65	0.39	1.32	40.8	72.5	16.6
Teachers (n.e.c.)	150,324	57,663	92,661	0.23	0.13	0.44	83,[illegible]	65,906	17,301	0.15	0.16	0.11	80.7	-12.5	435.6
Technicians: Medical and dental	138,162	51,891	86,271	0.21	0.12	0.41	76,662	33,219	43,443	0.14	0.08	0.28	80.2	56.2	98.6
Electrical and electronic	91,463	87,227	4,236	0.14	0.20	0.02	11,738	11,738	...	0.02	0.03	...	679.2	643.1	...
Other eng. & physical sciences	183,609	160,190	23,419	0.28	0.37	0.11	90,995	74,617	16,378	0.16	0.18	0.10	101.8	114.7	43.0
Technicians (n.e.c.)	65,723	50,197	15,526	0.10	0.12	0.07	18,606	12,262	6,344	0.03	0.03	0.04	253.2	309.4	144.7
Therapists and healers (n.e.c.)	36,654	16,902	19,752	0.06	0.04	0.09	24,609	12,433	12,176	0.04	0.03	0.08	48.9	35.9	62.2
Veterinarians	14,819	14,513	306	0.02	0.03	...	13,411	12,576	835	0.02	0.03	0.01	10.5	15.4	-63.4
Professional, techn'l, & kind. wkrs. (n.e.c.)	308,497	245,502	62,995	0.48	0.56	0.30	86,523	63,457	23,066	0.15	0.16	0.15	256.5	286.9	173.1
Farmers and farm managers	2,505,684	2,387,584	118,100	3.88	5.49	0.56	4,310,979	4,193,986	116,993	7.64	10.31	0.74	-41.9	-43.1	0.9
Farmers (owners and tenants)	2,481,202	2,363,813	117,389	3.84	5.44	0.55	4,275,833	4,161,039	114,794	7.58	10.23	0.73	-42.0	-43.2	2.3
Farm managers	24,482	23,771	711	0.04	0.05	...	35,146	32,947	2,199	0.06	0.08	0.01	-30.3	-27.9	-67.7
Managers, off'ls, & propr's, exc. farm	5,409,543	4,629,842	779,701	8.37	10.65	3.68	5,036,808	4,356,700	680,108	8.92	10.71	4.31	7.4	6.3	14.6
Buyers and department heads, store	233,974	180,170	53,804	0.36	0.41	0.25	142,502	106,292	36,210	0.25	0.26	0.23	64.2	69.5	48.6
Buyers and shippers, farm products	17,353	17,006	347	0.03	0.04	...	28,212	27,622	590	0.05	0.07	...	-38.5	-38.4	-41.2
Conductors, railroad	43,810	43,686	124	0.07	0.10	...	55,776	55,424	352	0.10	0.14	...	-21.5	-21.2	-64.8
Credit men	46,657	35,003	11,654	0.07	0.08	0.06	32,968	25,805	7,163	0.06	0.06	0.05	41.5	35.6	62.7
Floormen and floor managers, store	10,850	5,457	5,393	0.02	0.01	0.03	10,843	5,829	5,014	0.02	0.01	0.03	0.1	-6.4	7.6
Inspectors, public administration	75,542	72,584	2,958	0.12	0.17	0.01	57,210	54,928	2,282	0.10	0.14	0.01	32.0	32.1	29.6
Federal public administration & postal serv.	40,706	39,263	1,443	0.06	0.09	0.01	28,014	27,168	846	0.05	0.07	0.01	45.3	44.5	70.6
State public administration	13,395	12,810	585	0.02	0.03	...	9,556	9,197	359	0.02	0.02	...	40.2	39.3	63.0
Local public administration	21,441	20,511	930	0.03	0.05	...	19,640	18,563	1,077	0.03	0.05	0.01	9.2	10.5	-13.6
Managers and superintendents, building	52,887	33,204	19,683	0.08	0.08	0.09	65,997	43,471	22,526	0.12	0.11	0.14	-19.9	-23.6	-12.6
Officers, pilots, pursers, and engineers, ship	34,058	33,891	167	0.05	0.08	...	38,535	37,401	1,134	0.07	0.09	0.01	-11.6	-9.4	-85.3
Officials & administrators (n.e.c.), pub. admin.	198,632	160,667	37,965	0.31	0.37	0.18	154,830	128,377	26,453	0.27	0.32	0.17	28.3	25.2	43.5
Federal public administration & postal serv.	67,704	59,840	7,864	0.10	0.14	0.04	50,115	44,727	5,388	0.09	0.11	0.03	35.1	33.8	46.0
State public administration	36,375	31,650	4,725	0.06	0.07	0.02	23,328	20,501	2,827	0.04	0.05	0.02	55.9	54.4	67.1
Local public administration	94,553	69,177	25,376	0.15	0.16	0.12	81,387	63,149	18,238	0.14	0.16	0.12	16.2	9.5	39.1

Table 5. —DETAILED OCCUPATION OF THE EMPLOYED, BY SEX, FOR THE UNITED STATES: 1960 AND 1950—Con.

[See text for source of data. Percent distribution not shown where less than 0.01. Percent increase not shown where less than 0.1 or where base is less than 100. Minus sign (−) denotes decrease]

Detailed occupation	1960						1950						Percent increase, 1950 to 1960		
	Total	Male	Female	Percent distribution			Total	Male	Female	Percent distribution			Total	Male	Female
				Total	Male	Female				Total	Male	Female			
Managers, offs., & props., exc. farm--Con.															
Officials, lodge, society, union, etc	33,235	29,889	3,346	0.05	0.07	0.02	26,788	23,885	2,903	0.05	0.06	0.02	24.1	25.1	15.3
Postmasters	36,671	21,856	14,815	0.06	0.05	0.07	38,948	22,167	16,781	0.07	0.05	0.11	-5.8	-1.4	-11.7
Purchasing agents and buyers (n.e.c.)	103,368	93,676	9,692	0.16	0.22	0.05	63,236	57,490	5,746	0.11	0.14	0.04	63.5	62.9	68.7
Managers, off'ls, & propr's (n.e.c.)--salaried	2,554,314	2,221,418	332,896	3.95	5.11	1.57	1,793,139	1,578,613	214,526	3.18	3.88	1.36	42.4	40.7	55.2
Construction	142,542	137,652	4,890	0.22	0.32	0.02	85,995	84,003	1,992	0.15	0.21	0.01	65.8	63.9	145.5
Manufacturing	646,084	603,101	42,983	1.00	1.39	0.20	419,481	391,950	27,531	0.74	0.96	0.17	54.0	53.9	56.1
Transportation	117,844	112,586	5,258	0.18	0.26	0.02	96,377	92,926	3,451	0.17	0.23	0.02	22.3	21.2	52.4
Communications, & utilities & sanitary serv	102,353	91,204	11,149	0.16	0.21	0.05	78,582	67,599	10,983	0.14	0.17	0.07	30.2	34.9	1.5
Wholesale trade	199,954	185,922	14,032	0.31	0.43	0.07	157,566	148,547	9,019	0.28	0.37	0.06	26.9	25.2	55.6
Retail trade	605,904	512,861	93,043	0.94	1.18	0.44	509,143	431,545	77,598	0.90	1.06	0.49	19.0	18.8	19.9
Food and dairy products stores	104,838	95,673	9,165	0.16	0.22	0.04	95,636	84,444	11,192	0.17	0.21	0.07	9.6	13.3	-18.1
Eating and drinking places	71,884	50,016	21,868	0.11	0.12	0.10	69,006	49,519	19,487	0.12	0.12	0.12	4.2	1.0	12.2
General mdse. & ltd. price variety stores	87,194	65,593	21,601	0.13	0.15	0.10	59,708	46,421	13,287	0.11	0.11	0.08	46.0	41.3	62.6
Apparel and accessories stores	50,018	33,462	16,556	0.08	0.08	0.08	42,107	28,555	13,552	0.07	0.07	0.09	18.8	17.2	22.2
Furniture, housefurnishings, & equip. stores	31,085	27,784	3,301	0.05	0.06	0.02	27,682	25,147	2,535	0.05	0.06	0.02	12.3	10.5	30.2
Motor vehicles and accessories retailing	85,801	81,990	3,811	0.13	0.19	0.02	56,578	54,661	1,917	0.10	0.13	0.01	51.7	50.0	98.8
Gasoline service stations	43,293	42,796	497	0.07	0.10	...	35,502	34,875	627	0.06	0.09	...	21.9	22.7	-20.7
Hardware, farm equip., bldg. material, ret	53,790	51,515	2,275	0.08	0.12	0.01	43,737	42,161	1,576	0.08	0.10	0.01	23.0	22.2	44.4
Other retail trade	78,001	64,032	13,969	0.12	0.15	0.07	79,187	65,762	13,425	0.14	0.16	0.09	-1.5	-2.6	4.1
Banking and other finance	203,190	177,452	25,738	0.31	0.41	0.12	119,075	106,670	12,405	0.21	0.26	0.08	70.6	66.4	107.5
Insurance and real estate	140,062	116,034	24,028	0.22	0.27	0.11	70,278	58,689	11,589	0.12	0.14	0.07	99.3	97.7	107.3
Business services	64,559	50,921	13,638	0.10	0.12	0.06	25,730	20,652	5,078	0.05	0.05	0.03	150.9	146.6	168.6
Automobile repair services and garages	20,984	20,121	863	0.03	0.05	...	23,772	23,371	401	0.04	0.06	...	-11.7	-13.9	115.2
Miscellaneous repair services	7,218	6,744	474	0.01	0.02	...	4,341	4,113	228	0.01	0.01	...	66.3	64.0	107.9
Personal services	76,633	50,404	26,229	0.12	0.12	0.12	65,226	43,410	21,816	0.12	0.11	0.14	17.5	16.1	20.2
All other industries (incl. not reported)	226,987	156,416	70,571	0.35	0.36	0.33	137,573	105,138	32,435	0.24	0.26	0.21	65.0	48.8	117.6
Mgrs., offs., & props. (n.e.c.)--self-employed	1,968,192	1,681,335	286,857	3.04	3.87	1.35	2,527,824	2,189,396	338,428	4.48	5.38	2.15	-22.1	-23.2	-15.2
Construction	225,256	222,360	2,896	0.35	0.51	0.01	200,403	197,746	2,657	0.36	0.49	0.02	12.4	12.4	9.0
Manufacturing	170,372	158,619	11,753	0.26	0.36	0.06	244,083	229,500	14,583	0.43	0.56	0.09	-30.2	-30.9	-19.4
Transportation	39,312	36,972	2,340	0.06	0.09	0.01	51,721	49,292	2,429	0.09	0.12	0.02	-24.0	-25.0	-3.7
Communications, & utilities & sanitary serv	5,038	4,642	396	0.01	0.01	...	6,742	6,482	260	0.01	0.02	...	-25.3	-28.4	52.3
Wholesale trade	134,428	127,636	6,792	0.21	0.29	0.03	177,399	170,006	7,393	0.31	0.42	0.05	-24.2	-24.9	-8.1
Retail trade	999,863	817,919	181,944	1.55	1.88	0.86	1,414,851	1,171,708	243,143	2.51	2.88	1.54	-29.3	-30.2	-25.2
Food and dairy products stores	218,121	175,761	42,360	0.34	0.40	0.20	394,533	323,052	71,481	0.70	0.79	0.45	-44.7	-45.6	-40.7
Eating and drinking places	208,244	142,907	65,337	0.32	0.33	0.31	289,808	213,535	76,273	0.51	0.53	0.48	-28.1	-33.1	-14.3
General mdse. & ltd. price variety stores	45,736	35,074	10,662	0.07	0.08	0.05	78,712	64,540	14,172	0.14	0.16	0.09	-41.9	-45.7	-24.8
Apparel and accessories stores	56,559	37,472	19,087	0.09	0.09	0.09	85,007	58,939	26,068	0.15	0.14	0.17	-33.5	-36.4	-26.8
Furniture, housefurnishings, & equip. stores	49,269	44,764	4,505	0.08	0.10	0.02	68,469	62,757	5,712	0.12	0.15	0.04	-28.0	-28.7	-21.1
Motor vehicles and accessories retailing	56,128	54,627	1,501	0.09	0.13	0.01	59,907	58,368	1,539	0.11	0.14	0.01	-6.3	-6.4	-2.5
Gasoline service stations	150,551	146,492	4,059	0.23	0.34	0.02	146,773	141,342	5,431	0.26	0.35	0.03	2.6	3.6	-25.3
Hardware, farm equip., bldg. material, ret	67,055	63,656	3,399	0.10	0.15	0.02	85,053	80,857	4,196	0.15	0.20	0.03	-21.2	-21.3	-19.0
Other retail trade	148,200	117,166	31,034	0.23	0.27	0.15	206,589	168,318	38,271	0.37	0.41	0.24	-28.3	-30.4	-18.9
Banking and other finance	22,228	21,075	1,153	0.03	0.05	0.01	21,961	20,928	1,033	0.04	0.05	0.01	1.2	0.7	11.6
Insurance and real estate	49,589	42,484	7,105	0.08	0.10	0.03	45,018	39,058	5,960	0.08	0.10	0.04	10.2	8.8	19.2
Business services	36,778	30,970	5,808	0.06	0.07	0.03	32,961	28,184	4,777	0.06	0.07	0.03	11.6	9.9	21.6
Automobile repair services and garages	38,143	37,014	1,129	0.06	0.09	0.01	60,358	59,283	1,075	0.11	0.15	0.01	-36.8	-37.6	5.0
Miscellaneous repair services	19,975	18,965	1,010	0.03	0.04	...	29,727	28,408	1,319	0.05	0.07	0.01	-32.8	-33.2	-23.4
Personal services	130,402	87,246	43,156	0.20	0.20	0.20	144,836	105,345	39,491	0.26	0.26	0.25	-10.0	-17.2	9.3
All other industries (incl. not reported)	96,808	75,433	21,375	0.15	0.17	0.10	97,764	83,456	14,308	0.17	0.21	0.09	-1.0	-9.6	49.4
Clerical and kindred workers	9,306,896	3,015,476	6,291,420	14.40	6.94	29.72	6,954,440	2,646,420	4,308,020	12.32	6.51	27.31	33.8	13.9	46.0
Agents (n.e.c.)	160,262	131,247	29,015	0.25	0.30	0.14	124,323	104,970	19,353	0.22	0.26	0.12	28.9	25.0	49.9
Attendants and assistants, library	32,257	7,335	24,922	0.05	0.02	0.12	12,292	3,168	9,124	0.02	0.01	0.06	162.4	131.5	173.1
Attendants, physician's and dentist's office	70,655	1,711	68,944	0.11	...	0.33	40,952	2,043	38,909	0.07	0.01	0.25	72.5	-16.3	77.2
Baggagemen, transportation	5,467	5,280	187	0.01	0.01	...	7,921	7,768	153	0.01	0.02	...	-31.0	-32.0	22.2
Bank tellers	129,190	39,725	89,465	0.20	0.09	0.42	64,213	35,452	28,761	0.11	0.09	0.18	101.2	12.1	211.1
Bookkeepers	913,231	149,177	764,054	1.41	0.34	3.61	723,495	165,844	557,651	1.28	0.41	3.54	26.2	-10.0	37.0
Cashiers	468,950	100,996	367,954	0.73	0.23	1.74	231,382	47,072	184,310	0.41	0.12	1.17	102.7	114.6	99.6
Collectors, bill and account	30,573	24,088	6,485	0.05	0.06	0.03	23,484	20,024	3,460	0.04	0.05	0.02	30.2	20.3	87.4
Dispatchers and starters, vehicle	57,082	50,795	6,287	0.09	0.12	0.03	30,980	27,382	3,598	0.05	0.07	0.02	84.3	85.5	74.7
Express messengers and railway mail clerks	6,598	6,365	233	0.01	0.01	...	18,689	18,410	279	0.03	0.05	...	-64.7	-65.4	-16.5
File clerks	131,367	19,044	112,323	0.20	0.04	0.53	106,160	14,567	91,593	0.19	0.04	0.58	23.7	30.7	22.6
Insur. adjusters, examiners, & investigators	55,177	48,563	6,614	0.09	0.11	0.03	32,000	31,000	1,000	0.06	0.08	0.01	72.4	56.7	561.4
Mail carriers	196,728	192,501	4,227	0.30	0.44	0.02	165,354	161,890	3,464	0.29	0.40	0.02	19.0	18.9	22.0
Messengers and office boys	58,833	48,257	10,576	0.09	0.11	0.05	55,594	45,440	10,154	0.10	0.11	0.06	5.8	6.2	4.2
Office machine operators	307,828	79,979	227,849	0.48	0.18	1.08	142,350	25,241	117,109	0.25	0.06	0.74	116.2	216.9	94.6
Payroll and timekeeping clerks	106,874	43,193	63,681	0.17	0.10	0.30	64,193	35,935	28,258	0.11	0.09	0.18	66.5	20.2	125.4
Postal clerks	209,385	171,175	38,210	0.32	0.39	0.18	181,926	159,487	22,439	0.32	0.39	0.14	15.1	7.3	70.3
Receptionists	134,121	2,979	131,142	0.21	0.01	0.62	59,435	1,947	57,488	0.11	...	0.36	125.7	53.0	128.1
Secretaries	1,463,958	40,606	1,423,352	2.26	0.09	6.72	812,890	46,992	765,898	1.44	0.12	4.86	80.1	-13.6	85.8
Shipping and receiving clerks	280,214	256,866	23,348	0.43	0.59	0.11	284,780	264,861	19,919	0.50	0.65	0.13	-1.6	-3.0	17.2
Stenographers	270,179	11,625	258,554	0.42	0.03	1.22	423,844	15,278	408,566	0.75	0.04	2.59	-36.3	-23.9	-36.7
Stock clerks and storekeepers	325,869	277,151	48,718	0.50	0.64	0.23	231,201	206,844	24,357	0.41	0.51	0.15	40.9	34.0	100.0
Telegraph messengers	4,074	3,853	221	0.01	0.01	...	7,210	6,449	761	0.01	0.02	...	-43.5	-40.3	-71.0
Telegraph operators	20,075	15,538	4,537	0.03	0.04	0.02	34,359	26,915	7,444	0.06	0.07	0.05	-41.6	-42.3	-39.1
Telephone operators	356,916	15,119	341,797	0.55	0.03	1.61	358,749	16,233	342,516	0.64	0.04	2.17	-0.5	-6.9	-0.2
Ticket, station, and express agents	72,058	56,197	15,861	0.11	0.13	0.07	67,491	59,791	7,700	0.12	0.15	0.05	6.8	-6.0	106.0
Typists	522,203	25,468	496,735	0.81	0.06	2.35	359,747	26,562	333,185	0.64	0.07	2.11	45.2	-4.1	49.1
Clerical and kindred workers (n.e.c.)	2,916,772	1,190,643	1,726,129	4.51	2.74	8.15	2,289,426	1,068,855	1,220,571	4.06	2.63	7.74	27.4	11.4	41.4
Sales workers	4,638,985	2,977,872	1,661,113	7.18	6.85	7.85	3,906,794	2,572,673	1,334,121	6.92	6.33	8.46	18.7	15.8	24.5
Advertising agents and salesmen	33,901	29,219	4,682	0.05	0.07	0.02	32,463	27,879	4,584	0.06	0.07	0.03	4.4	4.8	2.1
Auctioneers	4,052	3,967	85	0.01	0.01	...	5,285	4,828	457	0.01	0.01	...	-23.3	-17.8	-81.4
Demonstrators	24,225	1,841	22,384	0.04	...	0.11	13,390	2,419	10,971	0.02	0.01	0.07	80.9	-23.9	104.0
Hucksters and peddlers	54,584	22,719	31,865	0.08	0.05	0.15	22,420	19,231	3,189	0.04	0.05	0.02	143.5	18.1	899.2
Insurance agents, brokers, and underwriters	364,557	329,270	35,287	0.56	0.76	0.17	272,663	247,708	24,955	0.48	0.61	0.16	33.7	32.9	41.4
Newsboys	190,408	182,097	8,311	0.29	0.42	0.04	96,456	92,583	3,873	0.17	0.23	0.02	97.4	96.7	114.6
Real estate agents and brokers	193,104	146,996	46,108	0.30	0.34	0.22	141,003	120,664	20,339	0.25	0.30	0.13	37.0	21.8	126.7
Stock and bond salesmen	28,617	26,777	1,840	0.04	0.06	0.01	11,001	9,908	1,093	0.02	0.02	0.01	160.1	170.3	68.3
Salesmen and sales clerks (n.e.c.)	3,745,537	2,234,986	1,510,551	5.79	5.14	7.13	3,312,113	2,047,453	1,264,660	5.87	5.04	8.02	13.1	9.2	19.4
Manufacturing	464,770	416,404	48,366	0.72	0.96	0.23	328,084	305,541	22,543	0.58	0.75	0.14	41.7	36.3	114.5
Wholesale trade	495,405	475,103	20,302	0.77	1.09	0.10	405,117	389,960	15,157	0.72	0.96	0.10	22.3	21.8	33.9
Retail trade	2,607,410	1,210,046	1,397,364	4.03	2.78	6.60	2,449,760	1,252,627	1,197,133	4.34	3.08	7.59	6.4	-3.4	16.7
Other industries (incl. not reported)	177,952	133,433	44,519	0.28	0.31	0.21	129,152	99,325	29,827	0.23	0.24	0.19	37.8	34.3	49.3

Table 5. —DETAILED OCCUPATION OF THE EMPLOYED, BY SEX, FOR THE UNITED STATES: 1960 AND 1950—Con.

[See text for source of data. Percent distribution not shown where less than 0.01. Percent increase not shown where less than 0.1 or where base is less than 100. Minus sign (−) denotes decrease]

Detailed occupation	1960						1950						Percent increase, 1950 to 1960		
	Total	Male	Female	Percent distribution			Total	Male	Female	Percent distribution			Total	Male	Female
				Total	Male	Female				Total	Male	Female			
Craftsmen, foremen, and kindred workers	8,741,292	8,488,777	252,515	13.52	19.53	1.19	7,820,634	7,584,306	236,328	13.86	18.65	1.50	11.8	11.9	6.8
Bakers	108,367	90,782	17,585	0.17	0.21	0.08	120,243	106,180	14,063	0.21	0.26	0.09	-9.9	-14.5	25.0
Blacksmiths	20,030	19,929	101	0.03	0.05	...	43,727	43,526	201	0.08	0.11	...	-54.2	-54.2	-49.8
Boilermakers	23,754	23,713	41	0.04	0.05	...	35,644	35,326	318	0.06	0.09	...	-33.4	-32.9	-87.1
Bookbinders	27,015	11,988	15,027	0.04	0.03	0.07	31,242	13,699	17,543	0.06	0.03	0.11	-13.5	-12.5	-14.3
Brickmasons, stonemasons, and tile setters	185,909	185,199	710	0.29	0.43	...	165,981	165,056	925	0.29	0.41	0.01	12.0	12.2	-23.2
Cabinetmakers	65,669	64,778	891	0.10	0.15	...	73,424	72,358	1,066	0.13	0.18	0.01	-10.6	-10.5	-16.4
Carpenters	818,835	816,195	2,640	1.27	1.88	0.01	918,753	913,925	4,828	1.63	2.25	0.03	-10.9	-10.7	-45.3
Cement and concrete finishers	40,767	40,667	100	0.06	0.09	...	29,561	29,375	186	0.05	0.07	...	37.9	38.4	-46.2
Compositors and typesetters	179,552	164,324	15,228	0.28	0.38	0.07	175,879	164,738	11,141	0.31	0.41	0.07	2.1	-0.3	36.7
Cranemen, derrickmen, and hoistmen	123,991	123,335	656	0.19	0.28	...	103,711	102,929	782	0.18	0.25	...	19.6	19.8	-16.1
Decorators and window dressers	50,939	27,373	23,566	0.08	0.06	0.11	43,441	30,403	13,038	0.08	0.07	0.08	17.3	-10.0	80.7
Electricians	337,147	334,732	2,415	0.52	0.77	0.01	311,251	309,026	2,225	0.55	0.76	0.01	8.3	8.3	8.5
Electrotypers and stereotypers	9,178	9,106	72	0.01	0.02	...	11,774	11,337	437	0.02	0.03	...	-22.0	-19.7	-83.5
Engravers, exc. photoengravers	11,269	9,321	1,948	0.02	0.02	0.01	9,747	8,514	1,233	0.02	0.02	0.01	15.6	9.5	58.0
Excavating, grading, and road mach. operators	198,802	198,114	688	0.31	0.46	...	105,422	104,923	499	0.19	0.26	...	88.6	88.8	37.9
Foremen (n.e.c.)	1,175,112	1,096,658	78,454	1.82	2.52	0.37	845,478	777,266	68,212	1.50	1.91	0.43	39.0	41.1	15.0
Construction	96,477	96,271	206	0.15	0.22	...	59,044	58,775	269	0.10	0.14	...	63.4	63.8	-23.4
Manufacturing	744,011	686,615	57,396	1.15	1.58	0.27	513,473	462,952	50,521	0.91	1.14	0.32	44.9	48.3	13.6
Metal industries	129,068	127,145	1,923	0.20	0.29	0.01	83,341	81,615	1,726	0.15	0.20	0.01	54.9	55.8	11.4
Machinery, including electrical	132,624	125,600	7,024	0.21	0.29	0.03	80,196	75,476	4,720	0.14	0.19	0.03	65.4	66.4	48.8
Transportation equipment	81,357	80,293	1,064	0.13	0.18	0.01	50,035	49,179	856	0.09	0.12	0.01	62.6	63.3	24.3
Other durable goods	100,481	94,704	5,777	0.16	0.22	0.03	75,548	69,936	5,612	0.13	0.17	0.04	33.0	35.4	2.9
Textiles, textile products, and apparel	74,365	51,116	23,249	0.12	0.12	0.11	68,967	47,922	21,045	0.12	0.12	0.13	7.8	6.7	10.5
Other nondur. goods (incl. not spec. mfg.)	226,116	207,757	18,359	0.35	0.48	0.09	155,386	138,824	16,562	0.28	0.34	0.11	45.5	49.7	10.9
Railroads and railway express service	35,875	35,819	56	0.06	0.08	...	54,060	53,812	248	0.10	0.13	...	-33.6	-33.4	-77.4
Transportation, exc. railroad	27,099	26,788	311	0.04	0.06	...	19,926	19,691	235	0.04	0.05	...	36.0	36.0	32.3
Communications, & utilities & sanitary serv.	57,579	56,530	1,049	0.09	0.13	...	40,363	39,365	998	0.07	0.10	0.01	42.7	43.6	5.1
Other industries (incl. not reported)	214,071	194,635	19,436	0.33	0.45	0.09	158,612	142,671	15,941	0.28	0.35	0.10	35.0	36.4	21.9
Forgemen and hammermen	11,698	11,298	400	0.02	0.03	...	13,127	12,867	260	0.02	0.03	...	-10.9	-12.2	53.8
Furriers	3,283	2,786	497	0.01	0.01	...	11,033	9,443	1,590	0.02	0.02	0.01	-70.2	-70.5	-68.7
Glaziers	14,987	14,760	227	0.02	0.03	...	10,307	9,982	325	0.02	0.02	...	45.4	47.9	-30.2
Heat treaters, annealers, and temperers	19,568	19,275	293	0.03	0.04	...	17,751	17,496	255	0.03	0.04	...	10.2	10.2	14.9
Inspectors, scalers, & graders, log & lumber	19,661	18,863	798	0.03	0.04	...	19,225	18,487	738	0.03	0.05	...	2.3	2.0	8.1
Inspectors (n.e.c.)	98,193	92,523	5,670	0.15	0.21	0.03	96,077	89,343	6,734	0.17	0.22	0.04	2.2	3.6	-15.8
Construction	14,854	14,754	100	0.02	0.03	...	8,108	8,024	84	0.01	0.02	...	83.2	83.9	...
Railroads and railway express service	29,361	29,285	76	0.05	0.07	...	36,802	36,643	159	0.07	0.09	...	-20.2	-20.1	-52.2
Trans., exc. R.R., commun., & other pub. util.	14,458	14,207	251	0.02	0.03	...	12,525	12,036	489	0.02	0.03	...	15.4	18.0	-48.7
Other industries (incl. not reported)	39,520	34,277	5,243	0.06	0.08	0.02	38,642	32,640	6,002	0.07	0.08	0.04	2.3	5.0	-12.6
Jewelers, watchmakers, goldsmiths, and silversmiths	36,762	34,620	2,142	0.06	0.08	0.01	45,850	43,384	2,466	0.08	0.11	0.02	-19.8	-20.2	-13.1
Job setters, metal	39,718	39,396	322	0.06	0.09	...	24,447	24,147	300	0.04	0.06	...	62.5	63.2	7.3
Linemen & servicemen, telegraph, t'phone, power	274,621	269,131	5,490	0.42	0.62	0.03	213,515	208,569	4,946	0.38	0.51	0.03	28.6	29.0	11.0
Locomotive engineers	56,630	56,545	85	0.09	0.13	...	73,004	72,573	431	0.13	0.18	...	-22.4	-22.1	-80.3
Locomotive firemen	37,087	36,983	104	0.06	0.09	...	54,264	54,068	196	0.10	0.13	...	-31.7	-31.6	-46.9
Loom fixers	23,889	23,681	208	0.04	0.05	...	30,297	29,957	340	0.05	0.07	...	-21.2	-21.0	-38.8
Machinists	498,688	492,228	6,460	0.77	1.13	0.03	514,696	506,557	8,139	0.91	1.25	0.05	-3.1	-2.8	-20.6
Mechanics and repairmen	2,223,358	2,197,193	26,165	3.44	5.05	0.12	1,729,834	1,708,812	21,022	3.07	4.20	0.13	28.5	28.6	24.5
Air conditioning, heating, and refrigeration	61,997	61,872	125	0.10	0.14	...	43,639	43,639	...	0.08	0.11	...	42.1	41.8	...
Airplane	114,181	112,513	1,668	0.18	0.26	0.01	71,350	70,198	1,152	0.13	0.17	0.01	60.0	60.3	44.8
Automobile	682,103	679,853	2,250	1.06	1.56	0.01	654,350	650,247	4,103	1.16	1.60	0.03	4.2	4.6	-45.2
Office machine	29,262	28,983	279	0.05	0.07	...	31,023	30,784	239	0.05	0.08	...	-5.7	-5.9	16.7
Radio and television	102,829	101,141	1,688	0.16	0.23	0.01	75,360	73,331	2,029	0.13	0.18	0.01	36.5	37.9	-16.8
Railroad and car shop	39,020	38,909	111	0.06	0.09	...	47,546	47,325	221	0.08	0.12	...	-17.9	-17.8	-49.8
Not elsewhere classified	1,193,966	1,173,922	20,044	1.85	2.70	0.09	806,566	793,288	13,278	1.43	1.95	0.08	48.0	48.0	51.0
Millers, grain, flour, feed, etc.	9,059	8,995	64	0.01	0.02	...	9,610	9,543	67	0.02	0.02	...	-5.7	-5.7	...
Millwrights	64,348	64,268	80	0.10	0.15	...	57,958	57,717	241	0.10	0.14	...	11.0	11.4	-66.8
Molders, metal	48,929	47,477	1,452	0.08	0.11	0.01	60,563	59,896	667	0.11	0.15	...	-19.2	-20.7	117.7
Motion picture projectionists	17,559	17,169	390	0.03	0.04	...	26,204	25,717	487	0.05	0.06	...	-33.0	-33.2	-19.9
Opticians, and lens grinders and polishers	20,349	17,304	3,045	0.03	0.04	0.01	19,200	16,681	2,519	0.03	0.04	0.02	6.0	3.7	20.9
Painters, construction and maintenance	370,660	362,977	7,683	0.57	0.84	0.04	391,841	383,734	8,107	0.69	0.94	0.05	-5.4	-5.4	-5.2
Paperhangers	10,181	8,726	1,455	0.02	0.02	0.01	20,936	17,995	2,941	0.04	0.04	0.02	-51.4	-51.5	-50.5
Pattern and model makers, exc. paper	38,939	38,292	647	0.06	0.09	...	35,990	34,784	1,206	0.06	0.09	0.01	8.2	10.1	-46.4
Photoengravers and lithographers	25,015	23,704	1,311	0.04	0.05	0.01	28,547	27,483	1,064	0.05	0.07	0.01	-12.4	-13.8	23.2
Piano and organ tuners and repairmen	6,011	5,858	153	0.01	0.01	...	7,768	7,500	268	0.01	0.02	...	-22.6	-21.9	-42.9
Plasterers	46,169	46,011	158	0.07	0.11	...	60,424	59,932	492	0.11	0.15	...	-23.6	-23.2	-67.9
Plumbers and pipe fitters	304,459	303,541	918	0.47	0.70	...	279,472	277,497	1,975	0.50	0.68	0.01	8.9	9.4	-53.5
Pressmen and plate printers, printing	73,914	70,783	3,131	0.11	0.16	0.01	49,278	47,146	2,132	0.09	0.12	0.01	50.0	50.1	46.9
Rollers and roll hands, metal	29,655	28,853	802	0.05	0.07	...	30,361	29,702	659	0.05	0.07	...	-2.3	-2.9	21.7
Roofers and slaters	47,980	47,873	107	0.07	0.11	...	44,479	44,242	237	0.08	0.11	...	7.9	8.2	-54.9
Shoemakers and repairers, exc. factory	36,188	34,866	1,322	0.06	0.08	0.01	57,231	55,075	2,156	0.10	0.14	0.01	-36.8	-36.7	-38.7
Stationary engineers	269,743	268,180	1,563	0.42	0.62	0.01	214,879	213,441	1,438	0.38	0.52	0.01	25.5	25.6	8.7
Stone cutters and stone carvers	6,102	5,970	132	0.01	0.01	...	8,710	8,484	226	0.02	0.02	...	-29.9	-29.6	-41.6
Structural metal workers	58,223	57,987	236	0.09	0.13	...	49,469	49,201	268	0.09	0.12	...	17.7	17.9	-11.9
Tailors	41,021	32,079	8,942	0.06	0.07	0.04	82,867	66,718	16,149	0.15	0.16	0.10	-50.5	-51.9	-44.6
Tinsmiths, coppersmiths, & sheet metal workers	135,315	133,889	1,426	0.21	0.31	0.01	123,232	122,066	1,166	0.22	0.30	0.01	9.8	9.7	22.3
Toolmakers, and die makers and setters	182,345	181,217	1,128	0.28	0.42	0.01	152,658	151,599	1,059	0.27	0.37	0.01	19.4	19.5	6.5
Upholsterers	59,370	53,702	5,668	0.09	0.12	0.03	61,279	56,045	5,234	0.11	0.14	0.03	-3.1	-4.2	8.3
Craftsmen and kindred workers (n.e.c.)	105,279	103,560	1,719	0.16	0.24	0.01	68,973	67,842	1,131	0.12	0.17	0.01	52.6	52.6	52.0
Former members of the Armed Forces	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Operatives and kindred workers	11,897,601	8,641,652	3,255,949	18.41	19.88	15.38	11,180,315	8,154,084	3,026,231	19.81	20.05	19.19	6.4	6.0	7.6
Apprentices	82,537	80,316	2,221	0.13	0.18	0.01	115,502	112,312	3,190	0.20	0.28	0.02	-28.5	-28.5	-30.4
Auto mechanics	1,771	1,751	20	...	...	...	3,723	3,576	147	0.01	0.01	...	-52.4	-51.0	-86.4
Bricklayers and masons	2,802	2,790	12	...	0.01	...	6,147	6,125	22	0.01	0.02	...	-54.4	-54.4	...
Carpenters	5,159	5,137	22	0.01	0.01	...	9,991	9,909	82	0.02	0.02	...	-48.4	-48.2	...
Electricians	9,117	9,049	68	0.01	0.02	...	8,889	8,811	78	0.02	0.02	...	2.6	2.7	...
Machinists and toolmakers	15,183	14,958	225	0.02	0.03	...	15,313	15,154	159	0.03	0.04	...	-0.8	-1.3	41.5
Mechanics, exc. auto	3,567	3,499	68	0.01	0.01	...	6,317	5,853	464	0.01	0.01	...	-43.5	-40.2	-85.3
Plumbers and pipe fitters	7,742	7,708	34	0.01	0.02	...	11,941	11,408	533	0.02	0.03	...	-35.2	-32.4	-93.6
Building trades (n.e.c.)	2,250	2,198	52	...	0.01	...	4,000	3,970	30	0.01	0.01	...	-43.8	-44.6	...
Metalworking trades (n.e.c.)	5,415	5,311	104	0.01	0.01	...	6,633	6,562	71	0.01	0.02	...	-18.4	-19.1	...
Printing trades	11,343	11,077	266	0.02	0.03	...	15,237	14,842	395	0.03	0.04	...	-25.6	-25.4	-32.7
Other specified trades	8,411	7,686	725	0.01	0.02	...	12,640	12,154	486	0.02	0.03	...	-33.5	-36.8	49.2
Trade not specified	9,777	9,152	625	0.02	0.02	...	14,671	13,948	723	0.03	0.03	...	-33.4	-34.4	-13.6

Table 5. —DETAILED OCCUPATION OF THE EMPLOYED, BY SEX, FOR THE UNITED STATES: 1960 AND 1950—Con.

[See text for source of data. Percent distribution not shown where less than 0.01. Percent increase not shown where less than 0.1 or where base is less than 100. Minus sign (−) denotes decrease]

Detailed occupation	1960						1950						Percent increase, 1950 to 1960		
	Total	Male	Female	Percent distribution			Total	Male	Female	Percent distribution					
				Total	Male	Female				Total	Male	Female	Total	Male	Female
Operatives and kindred workers--Con.															
Asbestos and insulation workers	18,086	17,457	629	0.03	0.04	...	14,226	13,821	405	0.03	0.03	...	27.1	26.3	55.3
Assemblers	614,347	343,578	270,769	0.95	0.79	1.28	377,868	228,278	149,590	0.67	0.56	0.95	62.6	50.5	81.0
Attendants, auto service and parking	351,826	344,695	7,131	0.54	0.79	0.03	236,825	230,142	6,683	0.42	0.57	0.04	48.6	49.8	6.7
Blasters and powdermen	6,370	6,298	72	0.01	0.01	...	10,966	10,872	94	0.02	0.03	...	-41.9	-42.1	...
Boatmen, canalmen, and lock keepers	6,779	6,681	98	0.01	0.02	...	8,143	7,938	205	0.01	0.02	...	-16.8	-15.8	-52.2
Brakemen, railroad	61,670	61,548	122	0.10	0.14	...	78,642	78,338	304	0.14	0.19	...	-21.6	-21.4	-59.9
Bus drivers	181,794	163,465	18,329	0.28	0.38	0.09	155,698	150,723	4,975	0.28	0.37	0.03	16.8	8.5	268.4
Chainmen, rodmen, and axmen, surveying	9,639	9,245	394	0.01	0.02	...	7,090	6,924	166	0.01	0.02	...	36.0	33.5	137.3
Checkers, examiners, and inspectors, mfg	480,092	265,026	215,066	0.74	0.61	1.02	331,844	154,956	176,888	0.59	0.38	1.12	44.7	71.0	21.6
Conductors, bus and street railway	4,237	4,148	89	0.01	0.01	...	11,282	11,074	208	0.02	0.03	...	-62.4	-62.5	-57.2
Deliverymen and routemen	419,651	408,832	10,819	0.65	0.94	0.05	239,625	235,337	4,288	0.42	0.58	0.03	75.1	73.7	152.3
Dressmakers and seamstresses, exc. factory	119,217	3,965	115,252	0.18	0.01	0.54	142,293	3,827	138,466	0.25	0.01	0.88	-16.2	3.6	-16.8
Dyers	18,411	17,681	730	0.03	0.04	...	24,210	23,167	1,043	0.04	0.06	0.01	-24.0	-23.7	-30.0
Filers, grinders, and polishers, metal	148,424	140,622	7,802	0.23	0.32	0.04	147,778	141,068	6,710	0.26	0.35	0.04	0.4	-0.3	16.3
Fruit, nut, and vegetable graders and packers, exc. factory	22,060	6,991	15,069	0.03	0.02	0.07	28,770	11,455	17,315	0.05	0.03	0.11	-23.3	-39.0	-13.0
Furnacemen, smeltermen, and pourers	53,343	52,447	896	0.08	0.12	...	55,407	54,167	1,240	0.10	0.13	0.01	-3.7	-3.2	-27.7
Graders and sorters, mfg	34,446	11,876	22,570	0.05	0.03	0.11	41,754	15,172	26,582	0.07	0.04	0.17	-17.5	-21.7	-15.1
Heaters, metal	7,657	7,485	172	0.01	0.02	...	9,274	8,857	417	0.02	0.02	...	-17.4	-15.5	-58.8
Knitters, loopers, and toppers, textile	44,039	14,429	29,610	0.07	0.03	0.14	80,607	39,496	41,111	0.14	0.10	0.26	-45.4	-63.5	-28.0
Laundry and dry cleaning operatives	386,873	109,477	277,396	0.60	0.25	1.31	430,344	141,316	289,028	0.76	0.35	1.83	-10.1	-22.5	-4.0
Meat cutters, exc. slaughter and packing house	180,755	175,302	5,453	0.28	0.40	0.03	171,191	167,714	3,477	0.30	0.41	0.02	5.6	4.5	56.8
Milliners	3,826	359	3,467	0.01	...	0.02	12,344	1,305	11,039	0.02	...	0.07	-69.0	-72.5	-68.6
Mine operatives and laborers (n.e.c.)	290,148	288,982	1,166	0.45	0.66	0.01	574,275	569,546	4,729	1.02	1.40	0.03	-49.5	-49.3	-75.3
Coal mining	116,263	115,997	266	0.18	0.27	...	362,284	360,971	1,313	0.64	0.89	0.01	-67.9	-67.9	-79.7
Crude petroleum and natural gas extraction	91,468	91,142	326	0.14	0.21	...	102,616	102,164	452	0.18	0.25	...	-10.9	-10.8	-27.9
Mining and quarrying, exc. fuel	82,417	81,843	574	0.13	0.19	...	109,375	106,411	2,964	0.19	0.26	0.02	-24.6	-23.1	-80.6
Motormen, mine, factory, logging camp, etc	12,747	12,681	66	0.02	0.03	...	23,855	23,641	214	0.04	0.06	...	-46.6	-46.4	-69.2
Motormen, street, subway, and elevated railway	7,436	7,340	96	0.01	0.02	...	26,540	26,190	350	0.05	0.06	...	-72.0	-72.0	-72.6
Oilers and greasers, exc. auto	51,364	50,841	523	0.08	0.12	...	59,276	58,340	936	0.11	0.14	0.01	-13.3	-12.9	-44.1
Packers and wrappers (n.e.c.)	438,140	175,205	262,935	0.68	0.40	1.24	326,618	117,190	209,428	0.58	0.29	1.33	34.1	49.5	25.5
Painters, exc. construction and maintenance	138,053	124,937	13,116	0.21	0.29	0.06	116,918	103,554	13,364	0.21	0.25	0.08	18.1	20.6	-1.9
Photographic process workers	41,262	23,631	17,631	0.06	0.05	0.08	28,178	15,635	12,543	0.05	0.04	0.08	46.4	51.1	40.6
Power station operators	26,707	25,332	1,375	0.04	0.06	0.01	21,646	20,816	830	0.04	0.05	0.01	23.4	21.7	65.7
Sailors and deck hands	32,748	32,515	233	0.05	0.07	...	40,837	40,078	759	0.07	0.10	...	-19.8	-18.9	-69.3
Sawyers	86,704	84,569	2,135	0.13	0.19	0.01	94,788	92,898	1,890	0.17	0.23	0.01	-8.5	-9.0	13.0
Sewers and stitchers, mfg	568,495	34,237	534,258	0.88	0.08	2.52	471,910	33,067	438,843	0.84	0.08	2.78	20.5	3.5	21.7
Spinners, textile	48,776	10,248	38,528	0.08	0.02	0.18	80,830	20,241	60,589	0.14	0.05	0.38	-39.7	-49.4	-36.4
Stationary firemen	87,887	87,379	508	0.14	0.20	...	122,628	121,521	1,107	0.22	0.30	0.01	-28.3	-28.1	-54.1
Switchmen, railroad	57,788	57,554	234	0.09	0.13	...	61,335	60,859	476	0.11	0.15	...	-5.8	-5.4	-50.8
Taxicab drivers and chauffeurs	162,499	158,171	4,328	0.25	0.36	0.02	203,435	200,004	3,431	0.36	0.49	0.02	-20.1	-20.9	26.1
Truck and tractor drivers	1,556,837	1,549,113	7,724	2.41	3.56	0.04	1,328,603	1,320,531	8,072	2.35	3.25	0.05	17.2	17.3	-4.3
Weavers, textile	62,691	36,741	25,950	0.10	0.08	0.12	97,916	59,318	38,598	0.17	0.15	0.24	-36.0	-38.1	-32.8
Welders and flame-cutters	360,630	344,385	16,245	0.56	0.79	0.08	261,416	251,997	9,419	0.46	0.62	0.06	38.0	36.7	72.5
Operatives and kindred workers (n.e.c.)	4,610,610	3,285,868	1,324,742	7.13	7.56	6.26	4,507,628	3,170,399	1,337,229	7.99	7.80	8.48	2.3	3.6	-0.9
Manufacturing	3,977,886	2,756,128	1,221,758	6.15	6.34	5.77	3,872,752	2,647,593	1,225,159	6.86	6.51	7.77	2.7	4.1	-0.3
Durable goods	1,890,974	1,503,021	387,953	2.93	3.46	1.83	1,762,867	1,389,482	373,385	3.12	3.42	2.37	7.3	8.2	3.9
Sawmills, planing mills, & misc. wood prod.	132,383	122,064	10,319	0.20	0.28	0.05	175,295	164,528	10,767	0.31	0.40	0.07	-24.5	-25.8	-4.2
Sawmills, planing mills, and mill work	96,874	93,582	3,292	0.15	0.22	0.02	138,846	133,869	4,977	0.25	0.33	0.03	-30.2	-30.1	-33.9
Miscellaneous wood products	35,509	28,482	7,027	0.05	0.07	0.03	36,449	30,659	5,790	0.06	0.08	0.04	-2.6	-7.1	21.4
Furniture and fixtures	99,493	84,795	14,698	0.15	0.20	0.07	107,652	86,224	21,428	0.19	0.21	0.14	-7.6	-1.7	-31.4
Stone, clay, and glass products	157,920	134,412	23,508	0.24	0.31	0.11	156,150	124,982	31,168	0.28	0.31	0.20	1.1	7.5	-24.6
Glass and glass products	50,658	43,093	7,565	0.08	0.10	0.04	53,906	43,821	10,085	0.10	0.11	0.06	-6.0	-1.7	-25.0
Cement, and concrete, gypsum, and plaster products	32,726	32,324	402	0.05	0.07	...	27,418	26,528	890	0.05	0.07	0.01	19.4	21.8	-54.8
Structural clay products	19,054	16,907	2,147	0.03	0.04	0.01	20,195	17,211	2,984	0.04	0.04	0.02	-5.6	-1.8	-28.0
Pottery and related products	20,088	12,170	7,918	0.03	0.03	0.04	31,447	18,258	13,189	0.06	0.04	0.08	-36.1	-33.3	-40.0
Misc. nonmetallic mineral & stone prod.	35,394	29,918	5,476	0.05	0.07	0.03	23,184	19,164	4,020	0.04	0.05	0.03	52.7	56.1	36.2
Metal industries	498,499	436,669	61,830	0.77	1.00	0.29	449,048	387,767	61,281	0.80	0.95	0.39	11.0	12.6	0.9
Primary metal industries	233,327	221,924	11,403	0.36	0.51	0.05	242,455	231,842	10,613	0.43	0.57	0.07	-3.8	-4.3	7.4
Blast furnaces, steel works, and rolling and finishing mills	94,991	93,530	1,461	0.15	0.22	0.01	116,766	114,888	1,878	0.21	0.28	0.01	-18.6	-18.6	-22.2
Other primary iron and steel ind.	60,272	58,249	2,023	0.09	0.13	0.01	61,678	58,536	3,142	0.11	0.14	0.02	-2.3	-0.5	-35.6
Primary nonferrous industries	78,064	70,145	7,919	0.12	0.16	0.04	64,011	58,418	5,593	0.11	0.14	0.04	22.0	20.1	41.6
Fab'd metal ind. (incl. not spec. metal)	265,172	214,745	50,427	0.41	0.49	0.24	206,593	155,925	50,668	0.37	0.38	0.32	28.4	37.7	-0.5
Cutlery, hand tools & other hardware	30,727	19,586	11,141	0.05	0.05	0.05	27,689	22,037	5,652	0.05	0.05	0.04	11.0	-11.1	97.1
Fabricated structural metal products	59,510	55,936	3,574	0.09	0.13	0.02	56,036	49,326	6,710	0.10	0.12	0.04	6.2	13.4	-46.7
Misc. fabricated metal products	173,569	138,148	35,421	0.27	0.32	0.17	119,388	81,905	37,483	0.21	0.20	0.24	45.4	68.7	-5.5
Not specified metal industries	1,366	1,075	291	...	...	...	3,480	2,657	823	0.01	0.01	0.01	-60.7	-59.5	-64.6
Machinery, exc. electrical	262,510	231,731	30,779	0.41	0.53	0.15	222,459	188,089	34,370	0.39	0.46	0.22	18.0	23.2	-10.4
Farm machinery and equipment	21,023	20,129	894	0.03	0.05	...	35,281	31,989	3,292	0.06	0.08	0.02	-40.4	-37.1	-72.8
Office, comput'g, & account'g machines	24,514	16,365	8,149	0.04	0.04	0.04	26,491	14,014	12,477	0.05	0.03	0.08	-7.5	16.8	-34.7
Miscellaneous machinery	216,973	195,237	21,736	0.34	0.45	0.10	160,687	142,086	18,601	0.28	0.35	0.12	35.0	37.4	16.9
Electrical machinery, equip., & supplies	289,671	151,670	138,001	0.45	0.35	0.65	213,049	109,357	103,692	0.38	0.27	0.66	36.0	38.7	33.1
Transportation equipment	262,798	234,925	27,873	0.41	0.54	0.13	256,230	220,670	35,560	0.45	0.54	0.23	2.6	6.5	-21.6
Motor vehicles & motor vehicle equip.	157,934	141,504	16,430	0.24	0.33	0.08	199,464	168,877	30,587	0.35	0.42	0.19	-20.8	-16.2	-46.3
Aircraft and parts	70,369	60,944	9,425	0.11	0.14	0.04	28,732	25,746	2,986	0.05	0.06	0.02	144.9	136.7	215.6
Ship and boat building and repairing	18,297	17,471	826	0.03	0.04	...	13,125	12,573	552	0.02	0.03	...	39.4	39.0	49.6
Railroad & misc. transportation equip.	16,198	15,006	1,192	0.03	0.03	0.01	14,909	13,474	1,435	0.03	0.03	0.01	8.6	11.4	-16.9
Profess'l & photographic equip., & watches	61,561	38,435	23,126	0.10	0.09	0.11	52,032	27,619	24,413	0.09	0.07	0.15	18.3	39.2	-5.3
Professional equipment and supplies	41,973	26,097	15,876	0.06	0.06	0.07	28,374	16,209	12,165	0.05	0.04	0.08	47.9	61.0	30.5
Photographic equipment and supplies	10,857	8,517	2,340	0.02	0.02	0.01	8,740	4,787	3,953	0.02	0.01	0.03	24.2	77.9	-40.8
Watches, clocks, clockwork-oper. devices	8,731	3,821	4,910	0.01	0.01	0.02	14,918	6,623	8,295	0.03	0.02	0.05	-41.5	-42.3	-40.8
Misc. manufacturing industries	126,139	68,320	57,819	0.20	0.16	0.27	130,952	80,246	50,706	0.23	0.20	0.32	-3.7	-14.9	14.0
Nondurable goods	2,077,693	1,247,596	830,097	3.21	2.87	3.92	2,094,055	1,252,129	841,926	3.71	3.08	5.34	-0.8	-0.4	-1.4
Food and kindred products	419,061	302,768	116,293	0.65	0.70	0.55	358,993	272,254	86,739	0.64	0.67	0.55	16.7	11.2	34.1
Meat products	123,621	92,386	31,235	0.19	0.21	0.15	89,163	78,948	10,215	0.16	0.19	0.06	38.6	17.0	205.8
Dairy products	54,983	51,234	3,749	0.09	0.12	0.02	56,666	52,203	4,463	0.10	0.13	0.03	-3.0	-1.9	-16.0
Canning & preserving fruits, vegetables, & sea foods	68,465	28,880	39,585	0.11	0.07	0.19	49,453	24,105	25,348	0.09	0.06	0.16	38.4	19.8	56.2
Grain-mill products	28,034	26,121	1,913	0.04	0.06	0.01	27,560	23,802	3,758	0.05	0.06	0.02	1.7	9.7	-49.1
Bakery products	41,051	26,237	14,814	0.06	0.06	0.07	29,839	16,117	13,722	0.05	0.04	0.09	37.6	62.8	8.0
Confectionery and related products	23,505	12,002	11,503	0.04	0.03	0.05	23,744	11,599	12,145	0.04	0.03	0.08	-1.0	3.5	-5.3
Beverage industries	43,697	38,864	4,833	0.07	0.09	0.02	48,226	41,147	7,079	0.09	0.10	0.04	-9.4	-5.5	-31.7
Misc. food preparations & kindred prod.	31,749	24,842	6,907	0.05	0.06	0.03	29,990	21,567	8,423	0.05	0.05	0.05	5.9	15.2	-18.0
Not specified food industries	3,956	2,202	1,754	0.01	0.01	0.01	4,352	2,766	1,586	0.01	0.01	0.01	-9.1	-20.4	10.6

Table 5. —DETAILED OCCUPATION OF THE EMPLOYED, BY SEX, FOR THE UNITED STATES: 1960 AND 1950—Con.

[See text for source of data. Percent distribution not shown where less than 0.01. Percent increase not shown where less than 0.1 or where base is less than 100. Minus sign (−) denotes decrease]

Detailed occupation	1960						1950						Percent increase, 1950 to 1960		
	Total	Male	Female	Percent distribution			Total	Male	Female	Percent distribution			Total	Male	Fe-male
				Total	Male	Fe-male				Total	Male	Fe-male			
Operatives and kindred workers--Con.															
Operatives and kindred workers (n.e.c.)--Con.															
Manufacturing--Con.															
Nondurable goods--Con.															
Tobacco manufactures	35,424	14,157	21,267	0.05	0.03	0.10	49,671	16,672	32,999	0.09	0.04	0.21	-28.7	-15.1	-35.6
Textile mill products	347,218	183,423	163,795	0.54	0.42	0.77	453,910	241,118	212,792	0.80	0.59	1.35	-23.5	-23.9	-23.0
Knitting mills	57,210	12,769	44,441	0.09	0.03	0.21	24,030	4,247	19,783	0.04	0.01	0.13	138.1	200.7	124.6
Dye'g & fin. text., exc.wool & knit gds.	23,137	18,959	4,178	0.04	0.04	0.02	24,245	18,794	5,451	0.04	0.05	0.03	-4.6	0.9	-23.4
Floor covering, exc. hard surface	11,259	6,593	4,666	0.02	0.02	0.02	19,484	9,881	9,603	0.03	0.02	0.06	-42.2	-33.3	-51.4
Yarn, thread, and fabric mills	236,062	132,663	103,399	0.37	0.31	0.49	359,649	195,504	164,145	0.64	0.48	1.04	-34.4	-32.1	-37.0
Miscellaneous textile mill products	19,550	12,439	7,111	0.03	0.03	0.03	26,502	12,692	13,810	0.05	0.03	0.09	-26.2	-2.0	-48.5
Apparel & other fabricated textile prod.	400,261	106,788	293,473	0.62	0.25	1.39	396,107	130,954	265,153	0.70	0.32	1.68	1.0	-18.5	10.7
Apparel and accessories	362,477	91,858	270,619	0.56	0.21	1.28	362,002	116,801	245,201	0.64	0.29	1.55	0.1	-21.4	10.4
Misc. fabricated textile prod.	37,784	14,930	22,854	0.06	0.03	0.11	34,105	14,153	19,952	0.06	0.03	0.13	10.8	5.5	14.5
Paper and allied products	217,741	169,364	48,377	0.34	0.39	0.23	199,680	143,643	56,037	0.35	0.35	0.36	9.0	17.9	-13.7
Pulp, paper, and paperboard mills	106,621	97,200	9,421	0.16	0.22	0.04	96,846	87,057	9,789	0.17	0.21	0.06	10.1	11.7	-3.8
Paperboard containers and boxes	65,212	44,562	20,650	0.10	0.10	0.10	55,230	30,294	24,936	0.10	0.07	0.16	18.1	47.1	-17.2
Miscellaneous paper and pulp products	45,908	27,602	18,306	0.07	0.06	0.09	47,604	26,292	21,312	0.08	0.06	0.14	-3.6	5.0	-14.1
Printing, publishing, and allied ind.	91,960	57,502	34,458	0.14	0.13	0.16	68,217	39,849	28,368	0.12	0.10	0.18	34.8	44.3	21.5
Newspaper publishing and printing	10,832	8,647	2,185	0.02	0.02	0.01	6,000	5,000	1,000	0.01	0.01	0.01	80.5	72.9	118.5
Printing, publishing, and allied industries, exc. newspapers	81,128	48,855	32,273	0.13	0.11	0.15	62,217	34,849	27,368	0.11	0.09	0.17	30.4	40.2	17.9
Chemicals and allied products	185,925	159,677	26,248	0.29	0.37	0.12	162,089	132,155	29,934	0.29	0.33	0.19	14.7	20.8	-12.3
Synthetic fibers	22,125	14,924	7,201	0.03	0.03	0.03	25,586	17,306	8,280	0.05	0.04	0.05	-13.5	-13.8	-13.0
Drugs and medicines	16,820	10,711	6,109	0.03	0.02	0.03	12,331	5,716	6,615	0.02	0.01	0.04	36.4	87.4	-7.6
Paints, varnishes, & related products	16,429	15,121	1,308	0.03	0.03	0.01	15,512	13,859	1,653	0.03	0.03	0.01	5.9	9.1	-20.9
Misc. chemicals and allied products	130,551	118,921	11,630	0.20	0.27	0.05	108,660	95,274	13,386	0.19	0.23	0.08	20.1	24.8	-13.1
Petroleum and coal products	48,826	48,097	729	0.08	0.11	...	48,699	47,282	1,417	0.09	0.12	0.01	0.3	1.7	-48.6
Petroleum refining	43,461	43,025	436	0.07	0.10	...	42,263	41,097	1,166	0.07	0.10	0.01	2.8	4.7	-62.6
Misc. petroleum and coal products	5,365	5,072	293	0.01	0.01	...	6,436	6,185	251	0.01	0.02	...	-16.6	-18.0	16.7
Rubber and misc. plastic products	150,403	110,214	40,189	0.23	0.25	0.19	131,389	95,858	35,531	0.23	0.24	0.23	14.5	15.0	13.1
Rubber products	103,150	80,555	22,595	0.16	0.19	0.11	103,389	78,858	24,531	0.18	0.19	0.16	-0.2	2.2	-7.9
Miscellaneous plastic products	47,253	29,659	17,594	0.07	0.07	0.08	28,000	17,000	11,000	0.05	0.04	0.07	68.8	74.5	59.9
Leather and leather products	180,874	95,606	85,268	0.28	0.22	0.40	225,300	132,344	92,956	0.40	0.33	0.59	-19.7	-27.8	-8.3
Leather: tanned, curried, & finished	16,605	14,459	2,146	0.03	0.03	0.01	28,455	23,812	4,643	0.05	0.06	0.03	-41.6	-39.3	-53.8
Footwear, exc. rubber	136,777	67,750	69,027	0.21	0.16	0.33	161,014	89,463	71,551	0.29	0.22	0.45	-15.1	-24.3	-3.5
Leather products, exc. footwear	27,492	13,397	14,095	0.04	0.03	0.07	35,831	19,069	16,762	0.06	0.05	0.11	-23.3	-29.7	-15.9
Not specified manufacturing industries	9,219	5,511	3,708	0.01	0.01	0.02	15,830	5,982	9,848	0.03	0.01	0.06	-41.8	-7.9	-62.3
Nonmanufacturing ind. (incl. not reported)	632,724	529,740	102,984	0.98	1.22	0.49	634,876	522,806	112,070	1.12	1.29	0.71	-0.3	1.3	-8.1
Construction	89,530	88,587	943	0.14	0.20	...	66,344	64,952	1,392	0.12	0.16	0.01	34.9	36.4	-32.3
Railroads and railway express service	52,483	52,051	432	0.08	0.12	...	90,949	89,793	1,156	0.16	0.22	0.01	-42.3	-42.0	-62.6
Transportation, exc. railroad	33,357	31,167	2,190	0.05	0.07	0.01	28,699	26,044	2,655	0.05	0.06	0.02	16.2	19.7	-17.5
Communications, & utilities & sanitary serv.	48,650	47,378	1,272	0.08	0.11	0.01	50,994	47,707	3,287	0.09	0.12	0.02	-4.6	-0.7	-61.3
Wholesale and retail trade	202,143	148,534	53,609	0.31	0.34	0.25	212,494	151,176	61,318	0.38	0.37	0.39	-4.9	-1.7	-12.6
Business and repair services	67,091	59,100	7,991	0.10	0.14	0.04	46,952	41,296	5,656	0.08	0.10	0.04	42.9	43.1	41.3
Personal services	13,936	6,872	7,064	0.02	0.02	0.03	18,918	8,727	10,191	0.03	0.02	0.06	-26.3	-21.3	-30.7
Public administration	43,668	39,398	4,270	0.07	0.09	0.02	48,199	42,931	5,268	0.09	0.11	0.03	-9.4	-8.2	-18.9
All other industries (incl. not reported)	81,866	56,653	25,213	0.13	0.13	0.12	71,327	50,180	21,147	0.13	0.12	0.13	14.8	12.9	19.2
Private household workers	1,725,826	61,063	1,664,763	2.67	0.14	7.86	1,411,160	73,365	1,337,795	2.50	0.18	8.48	22.3	-16.8	24.4
Baby sitters, private household	327,781	8,046	319,735	0.51	0.02	1.51	70,135	1,869	68,266	0.12	...	0.43	367.4	330.5	368.4
Housekeepers, private household	145,391	2,101	143,290	0.22	...	0.68	139,915	5,275	134,640	0.25	0.01	0.85	3.9	-60.2	6.4
Living in	55,431	600	54,831	0.09	...	0.26	52,801	570	52,231	0.09	...	0.33	5.0	5.3	5.0
Living out	89,960	1,501	88,459	0.14	...	0.42	87,114	4,705	82,409	0.15	0.01	0.52	3.3	-68.1	7.3
Laundresses, private household	39,754	699	39,055	0.06	...	0.18	71,447	2,211	69,236	0.13	0.01	0.44	-44.4	-68.4	-43.6
Living in	210	...	210	...	...	...	645	5	640	...	...	...	-67.4	...	-67.2
Living out	39,544	699	38,845	0.06	...	0.18	70,802	2,206	68,596	0.13	0.01	0.43	-44.1	-68.3	-43.4
Private household workers (n.e.c.)	1,212,900	50,217	1,162,683	1.88	0.12	5.49	1,129,663	64,010	1,065,653	2.00	0.16	6.76	7.4	-21.5	9.1
Living in	103,309	6,613	96,696	0.16	0.02	0.46	163,214	11,985	151,229	0.29	0.03	0.96	-36.7	-44.8	-36.1
Living out	1,109,591	43,604	1,065,987	1.72	0.10	5.03	966,449	52,025	914,424	1.71	0.13	5.80	14.8	-16.2	16.6
Service workers, exc. private household	5,444,962	2,598,673	2,846,289	8.42	5.98	13.44	4,297,018	2,376,749	1,920,269	7.61	5.85	12.17	26.7	9.3	48.2
Attendants, hospital and other institution	391,800	103,532	288,268	0.61	0.24	1.36	205,246	83,565	121,681	0.36	0.21	0.77	90.9	23.9	136.9
Attendants, profess. & personal serv. (n.e.c.)	70,246	20,783	49,463	0.11	0.05	0.23	40,967	12,103	28,864	0.07	0.03	0.18	71.5	71.7	71.4
Attendants, recreation and amusement	55,423	48,291	7,132	0.09	0.11	0.03	59,223	54,419	4,804	0.10	0.13	0.03	-6.4	-11.3	48.5
Barbers	178,968	173,473	5,495	0.28	0.40	0.03	177,152	177,152	...	0.31	0.44	...	1.0	-2.1	...
Bartenders	171,901	152,553	19,348	0.27	0.35	0.09	194,058	180,580	13,478	0.34	0.44	0.09	-11.4	-15.5	43.6
Boarding and lodging house keepers	29,250	3,392	25,858	0.05	0.01	0.12	28,965	7,829	21,136	0.05	0.02	0.13	1.0	-56.7	22.3
Bootblacks	9,417	9,035	382	0.01	0.02	...	13,892	13,425	467	0.02	0.03	...	-32.2	-32.7	-18.2
Chambermaids and maids, exc. private household	165,195	2,762	162,433	0.26	0.01	0.77	121,475	909	120,566	0.22	...	0.76	36.0	203.9	34.7
Charwomen and cleaners	179,691	56,963	122,728	0.28	0.13	0.58	119,372	47,207	72,165	0.21	0.12	0.46	50.5	20.7	70.1
Cooks, exc. private household	562,062	200,290	361,772	0.87	0.46	1.71	436,908	193,697	243,211	0.77	0.48	1.54	28.6	3.4	48.7
Counter and fountain workers	157,514	44,967	112,547	0.24	0.10	0.53	86,878	42,185	44,693	0.15	0.10	0.28	81.3	6.6	151.8
Elevator operators	71,882	48,882	23,000	0.11	0.11	0.11	89,185	62,227	26,958	0.16	0.15	0.17	-19.4	-21.4	-14.7
Hairdressers and cosmetologists	301,020	33,970	267,050	0.47	0.08	1.26	207,069	16,190	190,879	0.37	0.04	1.21	45.4	109.8	39.9
Housekeepers & stewards, exc. priv. household	146,000	28,307	117,693	0.23	0.07	0.56	106,530	23,157	83,373	0.19	0.06	0.53	37.1	22.2	41.2
Janitors and sextons	593,757	516,368	77,389	0.92	1.19	0.37	457,337	403,562	53,775	0.81	0.99	0.34	29.8	28.0	43.9
Kitchen workers (n.e.c.), exc. priv. household	304,023	124,227	179,796	0.47	0.29	0.85	204,237	78,827	125,410	0.36	0.19	0.80	48.9	57.6	43.4
Midwives	922	213	709	...	...	...	1,688	286	1,402	...	...	0.01	-45.4	-25.5	-49.4
Porters	142,194	139,547	2,647	0.22	0.32	0.01	161,953	158,319	3,634	0.29	0.39	0.02	-12.2	-11.9	-27.2
Practical nurses	205,974	8,859	197,115	0.32	0.02	0.93	136,541	5,640	130,901	0.24	0.01	0.83	50.9	57.1	50.6
Protective service workers	689,562	662,137	27,425	1.07	1.52	0.13	575,027	564,414	10,613	1.02	1.39	0.07	19.9	17.3	158.4
Firemen, fire protection	137,884	137,555	329	0.21	0.32	...	110,702	110,256	446	0.20	0.27	...	24.6	24.8	-26.2
Guards, watchmen, and doorkeepers	244,486	237,174	7,312	0.38	0.55	0.03	237,594	232,348	5,246	0.42	0.57	0.03	2.9	2.1	39.4
Marshals and constables	5,909	5,684	225	0.01	0.01	...	6,544	6,360	184	0.01	0.02	...	-9.7	-10.6	22.3
Policemen and detectives	252,194	245,404	6,790	0.39	0.56	0.03	193,175	189,653	3,522	0.34	0.47	0.02	30.6	29.4	92.8
Government	235,888	230,425	5,463	0.36	0.53	0.03	173,277	170,893	2,384	0.31	0.42	0.02	36.1	34.8	129.2
Private	16,306	14,979	1,327	0.03	0.03	0.01	19,898	18,760	1,138	0.04	0.05	0.01	-18.1	-20.2	16.6
Sheriffs and bailiffs	23,930	22,736	1,194	0.04	0.05	0.01	18,497	17,740	757	0.03	0.04	...	29.4	28.2	57.7
Watchmen (crossing) and bridge tenders	25,159	13,584	11,575	0.04	0.03	0.05	8,515	8,057	458	0.02	0.02	...	195.5	68.6	2,427.3
Ushers, recreation and amusement	14,265	9,865	4,400	0.02	0.02	0.02	23,481	15,462	8,019	0.04	0.04	0.05	-39.2	-36.2	-45.1
Waiters	825,606	110,779	714,827	1.28	0.25	3.38	668,343	119,842	548,501	1.18	0.29	3.48	23.5	-7.6	30.3
Service workers, exc. priv. household (n.e.c.)	178,290	99,478	78,812	0.28	0.23	0.37	181,491	115,752	65,739	0.32	0.28	0.42	-1.8	-14.1	19.9
Farm laborers and foremen	1,444,807	1,201,922	242,885	2.24	2.77	1.15	2,416,810	1,965,757	451,053	4.28	4.83	2.86	-40.2	-38.9	-46.2
Farm foremen	24,963	24,444	519	0.04	0.06	...	17,973	17,522	451	0.03	0.04	...	38.9	39.5	15.1
Farm laborers, wage workers	1,135,800	1,016,640	119,160	1.76	2.34	0.56	1,477,629	1,346,474	131,155	2.62	3.31	0.83	-23.1	-24.5	-9.1
Farm laborers, unpaid family workers	278,826	155,736	123,090	0.43	0.36	0.58	912,100	593,640	318,460	1.62	1.46	2.02	-69.4	-73.8	-61.3
Farm service laborers, self-employed	5,218	5,102	116	0.01	0.01	...	9,108	8,121	987	0.02	0.02	0.01	-42.7	-37.2	-88.2

Table 5. —DETAILED OCCUPATION OF THE EMPLOYED, BY SEX, FOR THE UNITED STATES: 1960 AND 1950—Con.

[See text for source of data. Percent distribution not shown where less than 0.01. Percent increase not shown where less than 0.1 or where base is less than 100. Minus sign (−) denotes decrease]

Detailed occupation	1960						1950						Percent increase, 1950 to 1960		
	Total	Male	Female	Percent distribution			Total	Male	Female	Percent distribution			Total	Male	Fe-male
				Total	Male	Fe-male				Total	Male	Fe-male			
Laborers, exc. farm and mine	3,107,531	2,997,785	109,746	4.81	6.90	0.52	3,436,110	3,308,553	127,557	6.09	8.14	0.81	-9.6	-9.4	-14.0
Carpenters' helpers, exc. logging and mining	36,306	35,973	333	0.06	0.08	...	58,136	58,136	...	0.10	0.14	...	-37.5	-38.1	...
Fishermen and oystermen	35,769	35,298	471	0.06	0.08	...	72,305	71,248	1,057	0.13	0.18	0.01	-50.5	-50.5	-55.4
Garage laborers and car washers and greasers	82,746	80,249	2,497	0.13	0.18	0.01	65,332	63,104	2,228	0.12	0.16	0.01	26.7	27.2	12.1
Gardeners, exc. farm, and groundskeepers	196,446	193,404	3,042	0.30	0.44	0.01	146,267	142,946	3,321	0.26	0.35	0.02	34.3	35.3	-8.4
Longshoremen and stevedores	55,780	55,479	301	0.09	0.13	...	64,844	64,166	678	0.11	0.16	...	-14.0	-13.5	-55.6
Lumbermen, raftsmen, and wood choppers	117,551	116,629	922	0.18	0.27	...	172,282	170,700	1,582	0.31	0.42	0.01	-31.8	-31.7	-41.7
Teamsters	19,657	19,584	73	0.03	0.05	...	21,186	20,871	315	0.04	0.05	...	-7.2	-6.2	-76.8
Truck drivers' helpers	29,675	29,406	269	0.05	0.07	...	45,402	45,402	...	0.08	0.11	...	-34.6	-35.2	...
Warehousemen (n.e.c.)	113,338	111,779	1,559	0.18	0.26	0.01	68,048	68,048	...	0.12	0.17	...	66.6	64.3	...
Laborers (n.e.c.)	2,420,263	2,319,984	100,279	3.74	5.34	0.47	2,722,308	2,603,932	118,376	4.82	6.40	0.75	-11.1	-10.9	-15.3
Manufacturing	862,417	808,621	53,796	1.33	1.86	0.25	1,071,890	1,004,158	67,732	1.90	2.47	0.43	-19.5	-19.5	-20.6
Durable goods	553,747	529,658	24,089	0.86	1.22	0.11	679,817	650,177	29,640	1.20	1.60	0.19	-18.5	-18.5	-18.7
Sawmills, plan'g mills, & misc. wood prod.	99,289	96,642	2,647	0.15	0.22	0.01	155,290	151,384	3,906	0.28	0.37	0.02	-36.1	-36.2	-32.2
Sawmills, planing mills, and mill work	87,607	86,059	1,548	0.14	0.20	0.01	139,007	136,690	2,317	0.25	0.34	0.01	-37.0	-37.0	-33.2
Miscellaneous wood products	11,682	10,583	1,099	0.02	0.02	0.01	16,283	14,694	1,589	0.03	0.04	0.01	-28.3	-28.0	-30.8
Furniture and fixtures	16,408	15,097	1,311	0.03	0.03	0.01	18,746	17,341	1,405	0.03	0.04	0.01	-12.5	-12.9	-6.7
Stone, clay, and glass products	74,334	71,832	2,502	0.11	0.17	0.01	77,727	74,680	3,047	0.14	0.18	0.02	-4.4	-3.8	-17.9
Glass and glass products	12,175	11,352	823	0.02	0.03	...	13,272	12,020	1,252	0.02	0.03	0.01	-8.3	-5.6	-34.3
Cement, and concrete, gypsum, and plaster products	25,248	25,103	145	0.04	0.06	...	22,801	22,618	183	0.04	0.06	...	10.7	11.0	-20.8
Structural clay products	23,243	22,580	663	0.04	0.05	...	26,639	25,983	656	0.05	0.06	...	-12.7	-13.1	1.1
Pottery and related products	4,135	3,485	650	0.01	0.01	...	6,330	5,624	706	0.01	0.01	...	-34.7	-38.0	-7.9
Misc. nonmetallic mineral & stone prod.	9,533	9,312	221	0.01	0.02	...	8,685	8,435	250	0.02	0.02	...	9.8	10.4	-11.6
Metal industries	223,696	217,075	6,621	0.35	0.50	0.03	260,641	252,618	8,023	0.46	0.62	0.05	-14.2	-14.1	-17.5
Primary metal industries	168,635	166,897	1,738	0.26	0.38	0.01	205,121	202,287	2,834	0.36	0.50	0.02	-17.8	-17.5	-38.7
Blast furnaces, steel works, and rolling and finishing mills	108,655	107,893	762	0.17	0.25	...	132,527	131,046	1,481	0.23	0.32	0.01	-18.0	-17.7	-48.5
Other primary iron and steel ind.	37,281	36,850	431	0.06	0.08	...	47,624	46,862	762	0.08	0.12	...	-21.7	-21.4	-43.4
Primary nonferrous industries	22,699	22,154	545	0.04	0.05	...	24,970	24,379	591	0.04	0.06	...	-9.1	-9.1	-7.8
Fab'd metal ind. (incl. not spec. metal)	55,061	50,178	4,883	0.09	0.12	0.02	55,520	50,331	5,189	0.10	0.12	0.03	-0.8	-0.3	-5.9
Cutlery, hand tools, & other hardware	4,145	3,392	753	0.01	0.01	...	8,346	6,432	1,914	0.01	0.02	0.01	-50.3	-47.3	-60.7
Fabricated structural metal products	17,745	17,278	467	0.03	0.04	...	16,596	15,633	963	0.03	0.04	0.01	6.9	10.5	-51.5
Misc. fabricated metal products	32,840	29,210	3,630	0.05	0.07	0.02	29,717	27,461	2,256	0.05	0.07	0.01	10.5	6.4	60.9
Not specified metal industries	331	298	33	...	...	...	861	805	56	...	...	...	-61.6	-63.0	...
Machinery, exc. electrical	40,996	39,595	1,401	0.06	0.09	0.01	51,396	49,417	1,979	0.09	0.12	0.01	-20.2	-19.9	-29.2
Farm machinery and equipment	5,933	5,754	179	0.01	0.01	...	12,819	12,432	387	0.02	0.03	...	-53.7	-53.7	-53.7
Office, comput'g, & account'g machines	1,704	1,568	136	...	...	...	1,618	1,482	136	...	...	...	5.3	5.8	...
Miscellaneous machinery	33,359	32,273	1,086	0.05	0.07	0.01	36,959	35,503	1,456	0.07	0.09	0.01	-9.7	-9.1	-25.4
Electrical machinery, equip., & supplies	29,806	24,516	5,290	0.05	0.06	0.02	31,544	26,642	4,902	0.06	0.07	0.03	-5.5	-8.0	7.9
Transportation equipment	54,890	53,156	1,734	0.08	0.12	0.01	66,499	63,829	2,670	0.12	0.16	0.02	-17.5	-16.7	-35.1
Motor vehicles & motor vehicle equip.	31,956	30,939	1,017	0.05	0.07	...	45,819	43,629	2,188	0.08	0.11	0.01	-30.3	-29.1	-53.5
Aircraft and parts	5,568	5,269	299	0.01	0.01	...	3,551	3,359	192	0.01	0.01	...	56.8	56.9	55.7
Ship and boat building and repairing	12,292	12,076	216	0.02	0.03	...	12,373	12,221	152	0.02	0.03	...	-0.7	-1.2	42.1
Railroad & misc. transportation equip.	5,074	4,872	202	0.01	0.01	...	4,758	4,620	138	0.01	0.01	...	6.6	5.5	46.4
Profess'l & photographic equip., & watches	3,980	3,221	759	0.01	0.01	...	4,377	3,622	755	0.01	0.01	...	-9.1	-11.1	0.5
Professional equipment and supplies	2,836	2,307	529	...	0.01	...	2,500	2,057	443	...	0.01	...	13.4	12.2	19.4
Photographic equipment and supplies	842	708	134	...	...	...	1,050	925	125	...	...	...	-19.8	-23.5	7.2
Watches, clocks, clockwork-oper. devices	302	206	96	...	...	...	827	640	187	...	...	...	-63.5	-67.8	-48.7
Miscellaneous manufacturing industries	10,348	8,524	1,824	0.02	0.02	0.01	13,597	10,644	2,953	0.02	0.03	0.02	-23.9	-19.9	-38.2
Nondurable goods	306,611	277,133	29,478	0.47	0.64	0.14	383,016	345,946	37,070	0.68	0.85	0.24	-19.9	-19.9	-20.5
Food and kindred products	119,409	110,556	8,853	0.18	0.25	0.04	147,214	136,131	11,083	0.26	0.33	0.07	-18.9	-18.8	-20.1
Meat products	26,504	23,992	2,512	0.04	0.06	0.01	34,168	31,042	3,126	0.06	0.08	0.02	-22.4	-22.7	-19.6
Dairy products	16,534	16,033	501	0.03	0.04	...	22,225	21,540	685	0.04	0.05	...	-25.6	-25.6	-26.9
Canning & preserving fruits, vegetables, & sea foods	17,809	15,101	2,708	0.03	0.03	0.01	17,443	14,166	3,277	0.03	0.03	0.02	2.1	6.6	-17.4
Grain-mill products	15,823	15,566	257	0.02	0.04	...	17,216	16,947	269	0.03	0.04	...	-8.1	-8.1	-4.5
Bakery products	8,624	7,629	995	0.01	0.02	...	4,750	3,597	1,153	0.01	0.01	0.01	81.6	112.1	-13.7
Confectionery and related products	3,063	2,602	461	...	0.01	...	3,666	3,074	592	0.01	0.01	...	-16.4	-15.4	-22.1
Beverage industries	15,017	14,586	431	0.02	0.03	...	18,737	18,048	689	0.03	0.04	...	-19.9	-19.2	-37.4
Misc. food preparations & kindred prod.	14,726	13,962	764	0.02	0.03	...	27,146	26,309	837	0.05	0.06	0.01	-45.8	-46.9	-8.7
Not specified food industries	1,309	1,085	224	...	...	...	1,863	1,408	455	...	...	...	-29.7	-22.9	-50.8
Tobacco manufactures	5,395	4,175	1,220	0.01	0.01	0.01	5,105	3,418	1,687	0.01	0.01	0.01	5.7	22.1	-27.7
Textile mill products	36,704	30,969	5,735	0.06	0.07	0.03	55,177	46,814	8,363	0.10	0.12	0.05	-33.5	-33.8	-31.4
Yarn, thread, and fabric mills	27,926	23,544	4,382	0.04	0.05	0.02	42,151	35,682	6,469	0.07	0.09	0.04	-33.7	-34.0	-32.3
Other textile mill products	8,778	7,425	1,353	0.01	0.02	0.01	13,026	11,132	1,894	0.02	0.03	0.01	-32.6	-33.3	-28.6
Apparel & other fabricated textile prod.	9,831	5,800	4,031	0.02	0.01	0.02	10,377	6,510	3,867	0.02	0.02	0.02	-5.3	-10.9	4.2
Paper and allied products	36,741	34,454	2,287	0.06	0.08	0.01	44,080	40,970	3,110	0.08	0.10	0.02	-16.6	-15.9	-26.5
Pulp, paper, and paperboard mills	23,395	22,895	500	0.04	0.05	...	27,226	26,434	792	0.05	0.07	0.01	-14.1	-13.4	-36.9
Paperboard containers and boxes	8,660	7,671	989	0.01	0.02	...	8,934	7,600	1,334	0.02	0.02	0.01	-3.1	0.9	-25.9
Miscellaneous paper and pulp products	4,686	3,888	798	0.01	0.01	...	7,920	6,936	984	0.01	0.02	0.01	-40.8	-43.9	-18.9
Printing, publishing, and allied ind.	11,768	10,267	1,501	0.02	0.02	0.01	11,150	9,971	1,179	0.02	0.02	0.01	5.5	3.0	27.3
Chemicals and allied products	44,861	43,361	1,500	0.07	0.10	0.01	51,246	48,582	2,664	0.09	0.12	0.02	-12.5	-10.7	-43.7
Synthetic fibers	2,391	2,267	124	...	0.01	...	3,056	2,848	208	0.01	0.01	...	-21.8	-20.4	-40.4
Drugs and medicines	1,892	1,678	214	...	...	...	1,881	1,568	313	...	...	...	0.6	7.0	-31.6
Paints, varnishes, & related products	2,850	2,719	131	...	0.01	...	4,505	4,259	246	0.01	0.01	...	-36.7	-36.2	-46.7
Misc. chemicals and allied products	37,728	36,697	1,031	0.06	0.08	...	41,804	39,907	1,897	0.07	0.10	0.01	-9.8	-8.0	-45.7
Petroleum and coal products	15,893	15,717	176	0.02	0.04	...	24,987	24,680	307	0.04	0.06	...	-36.4	-36.3	-42.7
Petroleum refining	13,372	13,252	120	0.02	0.03	...	22,400	22,176	224	0.04	0.05	...	-40.3	-40.2	-46.4
Misc. petroleum and coal products	2,521	2,465	56	...	0.01	...	2,587	2,504	83	...	0.01	...	-2.6	-1.6	...
Rubber and misc. plastic products	16,521	14,486	2,035	0.03	0.03	0.01	20,004	17,894	2,110	0.04	0.04	0.01	-17.4	-19.0	-3.6
Leather and leather products	9,488	7,348	2,140	0.01	0.02	0.01	13,676	10,976	2,700	0.02	0.03	0.02	-30.6	-33.1	-20.7
Not specified manufacturing industries	2,059	1,830	229	...	...	...	9,057	8,035	1,022	0.02	0.02	0.01	-77.3	-77.2	-77.6
Nonmanufacturing ind. (incl. not reported)	1,557,846	1,511,363	46,483	2.41	3.48	0.22	1,650,418	1,599,774	50,644	2.92	3.93	0.32	-5.6	-5.5	-8.2
Construction	612,465	608,541	3,924	0.95	1.40	0.02	605,124	600,064	5,060	1.07	1.48	0.03	1.2	1.4	-22.5
Railroads and railway express service	121,052	118,229	2,823	0.19	0.27	0.01	263,219	256,723	6,496	0.47	0.63	0.04	-54.0	-53.9	-56.5
Transportation, exc. railroad	81,419	80,319	1,100	0.13	0.18	0.01	81,119	78,987	2,132	0.14	0.19	0.01	0.4	1.7	-48.4
Communications, & utilities & sanitary serv.	116,287	115,155	1,132	0.18	0.26	0.01	125,126	123,584	1,542	0.22	0.30	0.01	-7.1	-6.8	-26.6
Wholesale and retail trade	334,991	318,524	16,467	0.52	0.73	0.08	254,064	239,073	14,991	0.45	0.59	0.10	31.9	33.2	9.8
Business and repair services	21,037	20,067	970	0.03	0.05	...	14,493	11,903	2,590	0.03	0.03	0.02	45.2	68.6	-62.5
Personal services	67,205	62,354	4,851	0.10	0.14	0.02	70,609	64,409	6,200	0.13	0.16	0.04	-4.8	-3.2	-21.8
Public administration	70,937	69,030	1,907	0.11	0.16	0.01	91,565	89,038	2,527	0.16	0.22	0.02	-22.5	-22.5	-24.5
All other industries (incl. not reported)	132,453	119,144	13,309	0.20	0.27	0.06	145,099	135,993	9,106	0.26	0.33	0.06	-8.7	-12.4	46.2
Occupation not reported	3,183,719	1,986,951	1,196,768	4.93	4.57	5.65	742,933	459,581	283,352	1.32	1.13	1.80	328.5	332.3	322.4

Source: Reproduction of Table 202 from U.S. Census of Population: 1960, Detailed Characteristics, United States Summary. U.S. Bureau of the Census.

relative importance of different types of training, remain undifferentiated. Some other occupational categories in the Census, though not as clearly of a general nature as those listed above, likewise would include a variety of skills or skill levels. 7/ In addition to the non-specific character of important census occupational categories, the occupations of 3.2 million workers were not reported by respondents in the 1960 Census--a higher proportion than in earlier Censuses--and the estimate of total employment in the Census was about 1.5 million below that of the EEMRLF for April 1960. Thus, approximately one-third of all employment was not identified by specific occupation in the Census but was included in general categories, or was not reported by the workers.

Response errors, mentioned in connection with the occupational data in the EEMRLF, are also a serious problem in occupational statistics gathered from householders during the population censuses. A comparison of results from the two sources provides some indication of the extent of the problem. Occupational data for both the Census tables and the monthly statistics published in the EEMRLF are collected by the Bureau of the Census using the same system of occupational classification. The monthly estimates are based on data gathered by carefully trained and supervised interviewers. In 1960, much of the Census occupational information came from individuals in each household who filled out the questionnaire without assistance from Census personnel. However, the information on the population census was more often provided by the worker, rather than by the housewife or other person who may have been at home at the time the interviewer for the monthly survey called.

Comparison of Census and occupational estimates from the monthly household survey can be made only for occupational groups, since the monthly data are not tabulated at the detailed occupational level. Because of the 1.5 million lower total employment estimate and the 3.2 million workers whose occupation was not reported in the Census, the Census occupational estimates were, on the average, only 93 percent of those from the monthly survey. For a number of subdivisions in the professional, clerical, and skilled blue-collar groups, the Census and the monthly estimates differed by no more than 5 percent. For other groups, however, Census estimates ranged from 30 percent of the monthly household survey estimate for unpaid family workers on farms, to 113 percent for sales workers outside the retail trade. Table 6 contains a comparable data for 1960. It must be remembered that both sets of statistics were based on samples, the Census on a 25-percent sample of all households, the monthly statistics on a much smaller sample of 35,000 households. The sampling variance of the latter estimates is therefore much larger.

7/ Definition of each occupational category published by the Census is provided by means of a listing of the individual occupational titles which comprise the category. This information is shown in 1960 Census of Population Classified Index of Occupations and Industries, U.S. Department of Commerce, Bureau of the Census.

Table 6. Employment by Occupational Group, Census and the Monthly Household Survey, April 1960

Occupational group	Employment 1/		Census as a percent of the monthly household survey
	Census	Monthly household survey	
	(in thousands)		
Total employment	64,639	66,159	98
Total occupation reported	61,455	66,159	93
Occupation not reported	3,184	0	--
White-collar workers	26,587	28,583	93
Professional, technical, and kindred workers	7,232	7,550	96
Medical and other health workers	1,306	1,294	101
Teachers, except college	1,672	1,737	96
Other professional, technical, and kindred workers	4,254	4,519	94
Managers, officials, and proprietors	5,410	6,960	78
Salaried workers	3,388	2/3,445	98
Self-employed, retail trade	1,018	2/1,809	56
Self-employed, except retail trade	1,003	2/1,706	59
Clerical and kindred workers	9,306	9,651	96
Stenographers, typists and secretaries	2,256	2,414	94
Other clerical and kindred workers	7,050	7,237	97
Sales workers	4,639	4,422	105
Retail trade	2,695	2,698	100
Other sales workers	1,944	1,724	113
Blue-collar workers	23,748	24,157	98
Craftsmen, foremen, and kindred workers	8,742	8,592	102
Carpenters	819	832	98
Construction craftsmen, except carpenters	1,600	1,670	96
Mechanics and repairmen	2,223	2,038	109

Table 6. Employment by Occupational Group, Census and the Monthly Household Survey, April 1960--Continued

Occupational group	Employment 1/		Census as a percent of the monthly household survey
	Census	Monthly household survey	
	(In thousands)		
Craftsmen, foremen, and kindred workers--continued			
Metal craftsmen, except mechanics	1,113	1,104	101
Other craftsmen and kindred workers	1,811	1,818	100
Foremen, not elsewhere classified	1,175	1,130	104
Operatives and kindred workers	11,898	11,996	99
Drivers and deliverymen	2,321	2,305	101
Other operatives and kindred workers	9,577	9,691	99
Durable goods manufacturing	3,801	3,480	109
Nondurable goods manufacturing	3,686	3,364	110
Other industries	2,090	2,847	73
Laborers, except farm and mine	3,108	3,569	87
Construction	645	724	89
Manufacturing	984	1,144	86
Other industries	1,479	1,701	87
Service workers	7,171	8,328	86
Private household workers	1,726	2,182	79
Service workers, except private household	5,445	6,146	89
Protective service workers	690	788	88
Waiters, cooks, and bartenders	1,560	1,727	90
Other service workers	3,195	3,631	88
Farmers and farm workers	3,951	5,089	78
Farmers and farm managers	2,506	2,869	87
Farm laborers and foremen	1,445	2,220	65
Paid	1,166	1,301	90
Unpaid family workers	279	919	30

Among the tests of the accuracy of data collected during the 1960 Census was one in which replies to the Census on the occupations of the employed were compared with information from records of the employers. [8] Employers of a subsample of about 2,000 persons (selected to represent 38.1 million workers) who were reported in the Census as employed were asked for information on the occupations of the individuals in the subsample. The Census report states ".... the employer responses on occupation are considered to be more accurate than those reported in the Census ...." [9]

Table 7 compares estimated total employment in each occupational group on the basis of data from employer records and on the basis of reports to the Census for the identical workers. The greatest differences, relative to employer records, were the appreciably lower estimates in the Census for the managerial group and for laborers. Additional comparisons of the Census returns with employer records, together with information on the sampling variability of the results, are contained in the Census Bureau report on the study.

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[8] U.S. Bureau of the Census. Evaluation and Research Program of the U.S. Censuses of Population and Housing 1960: The Employer Record Check. Series ER 60, No. 6.

[9] Ibid., p. 5.

Footnotes and sources for pages 25 and 26.

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[1] Detail may not add to total because of rounding.

[2] Recent studies of response error in the MRLF suggest that about a million salaried officers of incorporated businesses are erroneously reported as self-employed proprietors.

Sources: U.S. Census of Population, 1960. United States Summary, Detailed Characteristics, table 202, U.S. Department of Commerce, Bureau of the Census, and Employment and Earnings, May 1960, table A-10, p. 6, U.S. Department of Labor, Bureau of Labor Statistics.

Table 7. Major Occupation Groups of Employed Wage-and-Salary Workers, According to Employer Records and the 1960 Population Census 1/

Occupational group	Employment (millions)			Relation to employer records 2/ (percent)	
	Total		Identical occupational group reported		
	Employers records	Census		Census total	Census identical
Total	38.1	38.1	31.4	100	82
Professional, technical, and kindred workers	4.3	4.7	3.9	109	90
Managers, officials, and proprietors, except farm	2.6	2.1	1.6	80	61
Clerical and kindred workers	6.7	6.5	5.6	97	84
Sales workers	3.0	3.3	2.7	111	91
Craftsmen, foremen, and kindred workers	6.3	6.5	5.3	103	83
Operatives and kindred workers	9.1	9.2	7.8	101	86
Service workers, except private household	4.0	3.8	3.4	95	85
Laborers, except farm and mine	2.1	1.6	1.1	78	55
Occupation not reported	--	.4	--	--	--

1/ See U.S. Bureau of the Census. Evaluation and Research Program of the U.S. Censuses of Population and Housing 1960: The Employer Record Check. Series ER 60, No. 6 Derived from table 3. Excluded, in addition to the unemployed, are the self-employed, unpaid family workers, farmers and farm workers, private household workers, persons who did not provide information on industry in the 1960 census, and persons residing in Alaska and Hawaii.

2/ Percents based on unrounded figures.

Census occupational employment estimates for 1960 may be compared with those of the MRLF (subsequently EEMRLF) and with employers records only at the occupational group level. The relative difference in estimate between the Census and the other sources of each occupational group is in effect an average of the differences for the detailed occupations which comprise the group. Consequently, if the sample permitted reliable comparisons for detailed occupations, the relative differences between the Census and the other sources would be larger for some of the detailed occupations than for the occupational group, and would be smaller for some other detailed occupations.

At present, statistics gathered at the time of the decennial census are the major source of information on employment in detailed occupations. Manpower planning and other programs, however, require detailed and reliable occupational information at more frequent intervals than provided by decennial censuses.

Occupational Employment Data from Professional Societies

Professional associations often compile occupational employment data from licensure statistics or from their own membership records. Unfortunately, in many instances membership records provide only an incomplete count or may overlap membership in other societies. However, when a license is required to practice a profession, or general acceptance can only be gained by membership in a professional association, these sources usually provide reliable data. However, these statistics may overlap membership in other societies, include licensees in more than one State or some persons who, though members, are retired or inactive for other reasons, and may omit some persons who are employed but are not members of the professional society. Some occupations requiring licenses (e.g., real estate salesmen) are characterized by a high proportion of part-time or inactive personnel. In these cases, it is impossible to determine from licensure or membership records the number who are primarily employed in such occupations.

Of the 11 professional associations which compile reasonably complete and accurate employment data for their profession, 6 are concerned with health occupations. None of the professional societies estimates the employment distribution by industry for their occupation, but some of the health occupations are distributed by type of practice. This provides some insight into industry distribution. Data available from licensure statistics and professional society membership records concerning employment in health occupations are periodically assembled and analyzed in reports prepared by the U.S. Public Health Service. The following table gives employment estimates and sources of data for 11 occupations. These occupations are heavily concentrated in only one or two industries.

Table 8. Occupational Employment Data Available from Professional Associations

Occupation	Employment in thousands				
	1960	1961	1962	1963	1964
Health professions:					
Dentists 1/	87	88	89	89	90
Nurses - professional 2/	504		550		582
Nurses - student 3/	119	123	124	125	
Osteopaths 4/	12	12	11	11	11
Pharmacists 5/	117	117	117	117	118
Physicians 6/	224	231	239	248	255
Podiatrists 7/			8	8	8
Veterinarians 8/	20		21		21

Table 8. Occupational Employment Data Available from Professional Associations--Continued

Occupation	Employment in thousands				
	1960	1961	1962	1963	1964
Other professions:					
Actuaries 9/					3
Architects - registered 10/	26		27		30
Foresters 11/		18			

1/ Distribution of Dentists in the United States, by State, Region, District, and County, various editions, an annual report of the American Dental Association based on a count of dentists listed in the American Dental Directory. The employment estimate excludes military and retired personnel.

2/ Facts About Nursing, various editions, an annual report of the American Nurses' Association. The interagency Conference on Nursing Statistics, including representatives of the American Nursing Association, the National League for Nursing, and the U.S. Public Health Service, meets biennially to prepare a joint estimate based on their data and on records, registration data, and employment data obtained from the American Hospital Association, American Osteopathic Association, State Boards of Nursing, American Red Cross, National Student Nurses' Association, National Federation of Licensed Practical Nurses and the Bureau of Labor Statistics.

3/ Data furnished annually by the National League for Nursing on enrollment in basic programs of professional nursing schools in U.S. and Puerto Rico.

4/ A Statistical Study of the Osteopathic Professional, an annual report of The American Osteopathic Association. Data exclude the retired and those for whom status was not reported. Note: Approximately 2,200 osteopaths in California were awarded M.D. degrees in 1962, thus decreasing the number of Doctors of Osteopathy in that State.

5/ N.A.B.P. Bulletin, National Association of Boards of Pharmacy. Employment Statistics are compiled annually in the **winter edition.** They represent a count of registered pharmacists engaged in practice obtained from N.A.B.P. census and licensing data.

6/ A.M.A. Directory Report Service, a quarterly report of the American Medical Association. Data are as of the end of each year shown and have been adjusted to delete military and retired M.D.'s and M.D.'s other than those in Federal employ who have a temporary foreign address.

7/ American Podiatry Association reports based on State licensing: Podiatry as a Career, by Wilfred E. Belleau revised 1965 edition for 1962 data; Numbers and the Podiatry Professions, by Lloyd E. Blauch, for 1963 data, and Journal of the American Podiatry Association: March 1965; "1964 Survey of the Podiatry Profession: The Podiatrist: Distribution Education, Organizational Relationships," by Lloyd E. Blauch.

8/ A.V.M.A. Directory, a biennial publication of the American Veterinary Medical Association. The statistics give a reasonably reliable estimate of employment after adjustment for retired veterinarians.

9/ An unduplicated count of the membership of this Society of Actuaries, the Casualty Actuarial Society, Conference of Actuaries in Public Practice, and the Fraternal Actuarial Association, as well as qualified nonmembers (primarily consultants). All foreign and retired actuaries have been deleted from the count.

10/ Data are an unduplicated count of architects registered in each State, compiled by the National Council of Architecture Registration Boards, Architectural Institute of America. Some retired registered architects may be included.

11/ Journal of Forestry, July 1962, published by the Society of American Foresters. "How Many Foresters," article by F.H. Eyre. Data are from a survey of alumni by colleges granting degrees in forestry, plus a count of the nondegree members of the Society of American Foresters. No similar study is planned for the immediate future.

Occupational Employment Data from Surveys of Employers

Scientists, Engineers, and Related Technicians

In the last 15 years, the demand for technologically advanced goods for defense, the tremendous expansion of space research, and the growth of research and development for private industry, have focused a great deal of attention on the requirements for and supply of scientists, engineers, and technicians. To obtain information on the employment of these highly trained workers, mail surveys of employers in various sectors of the economy were inaugurated. In 1954, 1957, and annually since 1959, the Bureau of Labor Statistics conducted surveys of scientific and technical personnel employed in private industry. The Bureau also gathered data on the employment of scientific and technical personnel employed by State governments in 1959, 1962, and 1964 and expects to repeat the survey regularly. A survey of local governments was made in 1963.

Estimates of scientists, engineers, and technicians employed in colleges and universities are obtained from surveys of institutions of higher education conducted by the National Science Foundation; and the employment of scientists and engineers in the Federal Government can be derived from Civil Service records.

The National Science Foundation, which is charged with developing information on scientific and technical personnel, also maintains a National Register of Scientific and Technical Personnel, for scientists and engineers employed in all segments of the economy. The data are obtained for the Foundation by contract with professional scientific societies, each of which is responsible for coverage of scientific occupations. Registrations are secured on a voluntary basis by the societies, using standard questionnaires and scientific and engineering specialties lists.

Statistics have been published for physical and life scientists. 10/ In 1964, coverage was expended to include professionals in the fields of economics, linguistics, and sociology. The Foundation's register provides information on the characteristics of U.S. scientists in terms of their education, areas of specialization, salaries, and geographic locations, and is the major source of data on detailed fields of specialization within broad fields such as biology, physics, etc. However, the register's estimates of total employment in scientific and technical occupations may be subject to significant error. As stated in the foreword of the report made by the National Science Foundation on manpower in 1962: "The information on individual scientists, collected by the National Register on a voluntary basis, constitutes partial coverage of the universe of scientific and technical personnel." 11/ Some qualified scientific and technical personnel

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10/ American Science Manpower 1962, A report of the National Register of Scientific and Technical Personnel, National Science Foundation, 1965. O
also 1966, 67, 68

11/ Ibid, p. iii.

who are not members of the societies reporting may be unintentionally omitted. Further, an unknown bias results from the voluntary registration procedure. The Foundation plans to explore the extent and character of the bias in order to take steps to reduce it.

The National Science Foundation's recent publication, Scientific and Technical Manpower Resources, [12] brings together from various sources a wealth of material on scientists, engineers and technicians. In addition to information on the employment of, and demand for these personnel, the NSF report discusses utilization of scientists and engineers in research and other activities, their geographic distribution, education, foreign language proficiency, and income.

Scientific and Technical Personnel in Private Industry.--The major employment of these highly trained workers is in private industry. The BLS surveys of such employment have been improved and modified as experience has been gained in conducting this type of inquiry; and the surveys therefore, are not strictly comparable over the 10-year period. In the 1954 and 1957 surveys, scientists and engineers employed as administrators were not identified specifically as engineers or by scientific specialty. However, an attempt has been made to adjust the 1954 data for scientific specialty. Up to 1961, the sample was selected on a company basis, stratified by industry and size of employment. The desirability of selecting the sample on an establishment rather than a company basis had been well recognized but was not considered feasible prior to 1961. Many of the large companies which operate plants classified in a number of different industries could not identify their scientific and technical personnel by industry because of recordkeeping practices or other reasons. Although the survey sample was selected on an establishment basis beginning in 1961, some reports from multiplant companies are still received on a companywide basis and present difficult problems in assigning sample weights.

The number of establishments in the sample has increased moderately over the period, and beginning with the survey planned for 1966, the sample will be greatly expanded. However, for earlier years, the sampling errors for the smaller estimates are relatively large and explain, in part, variations in those figures which appear to be inconsistent with long-term trends. The smaller numbers should be considered as giving a reasonable estimate, but not a fully satisfactory indication of year-to-year changes.

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[12] Scientific and Technical Manpower Resources, Summary Information on Employment, Characteristics, Supply and Training, NSF 64-28. National Science Foundation, 1965.

Scientific and Technical Personnel Employed by the Federal Government.--Periodically, the Civil Service Commission requests information from Federal agencies on the distribution of full-time civilian employees by occupation. Reports are submitted by most agencies and provide extensive detail on Federal civilian positions. Through 1961, two pamphlets were published from these data--Occupations of Federal White-Collar Workers and Occupations of Federal Blue-Collar Workers. [13] Scientific, engineering, and technician disciplines are included in the large number of occupations enumerated in these reports. Data for these selected occupations are also published in a National Science Foundation report entitled, Scientific and Technical Personnel in Federal Government.

In Government, some variation exists in the definition of the scientific and technical occupations included in reports from several agencies. Moreover, the classification program continues to keep abreast of changing technology. Some occupational categories are discontinued and new ones are introduced which are not necessarily comparable with those they replace. Despite these problems relating to the consistency and definition of occupations, summaries of Federal Government occupational data provide a reliable accounting of Federal civilian employment in the scientific, engineering, and technical fields.

Scientific and Technical Personnel Employment by State Government.--In conducting State government surveys of scientific and technical personnel, mail questionnaires are sent by the BLS to State agencies except those primarily concerned with teaching, or with judicial or legislative functions. These are not sample surveys; questionnaires are sent to all agencies included in the universe. The surveys provide a distribution of scientists, engineers and technicians by type of agency. In 1962, civil engineers were listed separately from the total engineering category. In 1964, data were collected for civil and sanitary engineers as well as for all engineers.

Scientific and Technical Personnel in Colleges and Universities.--The National Science Foundation has been particularly interested in the significant increase occurring over the past decade in the number of scientists and engineers employed by colleges and universities. In 1961, in an effort to keep abreast of this development, it conducted a sample survey of more than 2,000 accredited institutions of higher learning, including Federal contract research centers operated by universities and covering graduate students as well as full- and part-time faculty and non-faculty staff. No attempt was made to inflate the data to account for nonrespondent institutions which were considered "distinctive organizations." Data on these nonrespondents were therefore omitted. On the aggregate, it is estimated that these omissions reflect less than 5 percent of the total full-time equivalents of employed professional staff engaged in scientific and engineering activity in all colleges and universities. The results of this study were published in a report entitled Science and Engineering Professional Manpower Resources in Colleges and Universities, 1961 NSF 65-8 (1964). A similar study for 1965 is being prepared for publication.

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[13] Civil Service Commission data are described more fully on p. 52.

The following table combines 1962 employment data for scientists, engineers, and technicians obtained from the sources described above. Data for other years for each segment of the economy may be obtained from the appropriate source.

Table 9. Employment of Scientists, Engineers, and Technicians, 1962

Occupation	Employment (in thousands)				
	Total 1/	(a) Private industry	(b) Federal Government	(c) State Government	(d) Colleges and universities
Total scientists and engineers	1,130.9	851.6	116.1	47.5	2/115.7
Engineers	808.5	684.6	3/65.9	34.0	24.0
Total scientists	322.4	167.0	50.2	13.5	91.7
Chemists	104.4	81.6	6.7	1.4	14.7
Physicists	30.8	13.9	4.6	(4/)	12.3
Geologists and geophysicists	19.3	12.4	2.3	.9	5/3.7
Mathematicians and statisticians	30.7	12.9	5.1	.4	12.3
Metallurgists	15.3	14.7	.6	(6/)	(6/)
Biological scientists	46.0	10.2	6.4	4.5	7/24.9
Medical scientists	21.5	7.7	(8/)	1.9	9/11.9
Agricultural scientists	37.4	8.6	16.1	4.1	8.6
Other scientists	17.1	5.0	3/8.5	.3	3.3
Total technicians	710.1	585.1	69.5	55.5	(10/)
Draftsmen	224.7	212.6	5.4	6.7	
Other engineering and physical science technicians	347.3	254.6	51.1	41.6	
Medical, agricultural, and biological technicians	35.6	16.9	13.0	5.7	
Other technicians	102.4	100.9	--	1.5	

Footnotes

1/ The total does not include scientific and technical personnel who are self-employed or who are employed by local governments, nonprofit organizations, and very small companies not covered by the private industry sample survey. In 1961, private foundations employed 650 scientists and engineers full-time.

2/ Includes all full-time employees (faculty and nonfaculty) and graduate student assistants. Part-time employees are excluded as it is assumed that employment with colleges and universities is not their primary job.

3/ In 1961, a number of employees of the National Aeronautics and Space Administration were reclassified from aerospace engineer to general physical scientist. In 1962, many of these were returned to the engineer group.

4/ Information on physicists was not requested separately in the State government survey.

5/ All "earth scientists" reported as employed by colleges and universities are classified as geologists and geophysicists in this table.

6/ Information on metallurgists was not requested separately in the surveys of State government and institutions of higher education.

7/ Includes 3,000 biochemists designated as "life scientists" and excludes 400 pathologists considered medical practitioners.

8/ The Civil Service data made no distinction between medical practitioners and medical scientists. In 1961, about 15.7 thousand medical and dental officers, pharmacists, optometrists, etc., were employed by the Federal Government. Of this number, approximately 14.5 thousand were employed by two agencies--the Veterans Administration and the Department of Health, Education and Welfare. Both of these agencies employ large hospital staffs, as well as research and related personnel.

9/ Excludes 3,900 clinical scientists who are considered medical practitioners.

10/ The NSF did not obtain data on technicians.

Sources:
- (a) United States Department of Labor, Bureau of Labor Statistics Employment of Scientific and Technical Personnel in Industry, Bulletin No. 1418.
- (b) U.S. Civil Service Commission. Unpublished data as of October 31, 1962.
- (c) U.S. Department of Labor, Bureau of Labor Statistics. Employment of Scientific and Technical Personnel in State Government Agencies, 1962, Bulletin 1412.
- (d) National Science Foundation. "Science and Engineering Professional Manpower Resources in Colleges and Universities, 1961" Review of Data on Research and Development, Number 37, January 1963.

Teaching and Related Professions

The U.S. Office of Education collects information on a variety of educational subjects including data on the employment of teachers and related personnel.

In its 1965 report, Projections of Educational Statistics to 1974-75, the Office of Education published annual estimates of the number of elementary and secondary school teachers employed in public and nonpublic schools during the school years for the period 1954 to 1964 and projections to 1974-75. Some of these data are also published in its annual Digest of Educational Statistics. The statistics are based on a count of teaching positions in each State public school system submitted by State Superintendents of Education. Data for nonpublic schools are estimated by the Office of Education, using information from various sources. As these statistics are estimates of teaching positions, they exclude substitute teachers. Principals, supervisors, and administrative personnel are also excluded. Librarians, guidance and psychological personnel are included when not reported separately. The data contained in this 1965 report differ from the EEMRLF estimates (table 2), since the latter include substitute teachers if they worked during the reporting period, principals and some administrative personnel, and teachers employed in specialized vocational schools not affiliated with elementary and secondary school schools, in its estimate for teachers, except college.

Employment data for college instructors and faculty are collected biennially by the Office of Education by means of a questionnaire mailed to all known institutions of higher education, including junior colleges. The survey results are published biennially in the report, Faculty and Other Professional Staff in Institutions of Higher Education. The most recent report was issued in 1965, and covers data for the first term of 1961-62. The data are also contained in the Digest of Educational Statistics, and Projections of Educational Statistics to 1974-75. The latter also provides employment estimates for nonsurvey years. Part-time instructors and graduate student assistants, as well as full-time instructors, are included in the survey data and nonsurvey estimates.

The Digest of Educational Statistics also presents annual estimates of the number of librarians employed in public and nonpublic elementary and secondary schools, colleges and universities, and in public libraries and special libraries. The estimates are derived from surveys of libraries of certain sizes and categories and from estimates based on population and school enrollment. Employment is expressed in terms of full-time equivalents and, therefore, includes part-time professional librarians. Some 15,000 to 20,000 partly trained part-time librarians have been excluded from the estimates. The Civil Service Commission, in its report Occupations of Federal White-Collar Workers, cites the number of librarians employed by Federal Government agencies. The Office of Education includes these librarians in its special libraries category.

Table 10. Employment of Teachers and Related Personnel

Occupation	Employment (in thousands) in fall of school year					
	1959-60	1960-61	1961-62	1962-63	1963-64	1964-65
Total elementary and secondary[1]	1,531	1,594	1,657	1,717	1,797	1,881
Elementary school teachers	952	984	1,002	1,026	1,053	1,092
Public	832	858	869	886	908	942
Nonpublic	120	126	133	140	145	150
Secondary school teachers	580	610	655	690	743	789
Public	524	550	592	621	669	709
Nonpublic	56	60	63	69	74	80
Total college instructional staff[2]	283	296	313	336	358	389
Instructors or above	245	254	267	287	305	331
Full-time	164	170	179	192	205	221
Part-time	81	84	88	95	101	110
Junior instructional staff	39	42	46	49	53	58
Librarians[3]	62	63	66	69	73	77
Public elementary and secondary	20	20	22	23	25	27
Nonpublic elementary and secondary	3	3	4	4	4	5
College and university	9	10	10	11	12	12
Public library	20	20	20	20	21	21
Special library	10	10	10	10	12	12

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[1] Projections of Educational Statistics to 1974-75, 1965 edition, U.S. Department of Health, Education and Welfare, Office of Education, publication #OE-10030-65, table 21.

[2] Ibid, table 25. Data cover only faculty for resident instruction in degree-credit courses. They do not include professional staff for general administration, student personnel services, or organized research; faculty for resident instruction in other than degree-credit courses; extension staff; professional library staff; instructional staff for elementary or secondary instruction; and other faculty. Data for 1960-61 and 1962-63 are estimates.

[3] Digest of Educational Statistics, 1965 edition, U.S. Department of Health, Education and Welfare, Office of Education, publication #OE-10024-65, table 128.

In 1963, the Office of Education conducted a 10-percent sample survey of full-time college teaching staffs, designed to provide a basis for estimates of the number of college teachers by primary subject (teaching area). Although data were obtained for each teaching field (table 11), they are representative only of universities, liberal arts colleges, and independently organized teachers colleges and technological institutions. Theological schools, schools of art, miscellaneous independent professional schools offering programs in medicine, law, business, pharmacy, etc., and junior colleges were excluded. The findings from this study were published in a 1964 report entitled Teaching Faculty in Higher Education, 1962-63: Primary Teaching Areas and Contract Salaries.

Table 11.—Percent of teaching faculty in each teaching field within each teaching area and estimated number of teaching faculty in each field, by type of universities and 4-year colleges: Aggregate United States, spring 1963

Primary teaching area	Percent of teaching faculty in each field within each area	Total number	Estimated number of teaching faculty by type of institution			
			Universities	Liberal arts	Teachers colleges	Technological institutions
Total number all fields	....	136,680	67,620	45,210	16,580	7,270
Agriculture and related fields	100	2,960	2,530	230	150	50
Agricultural fields	66	1,960	1,610	220	80	50
Related fields:						
Agricultural economics	15	440	420	....	20	....
Agriculture education	4	120	120	....	....	....
Forestry	15	440	390	10	40	....
Biological sciences	100	10,740	6,630	2,880	1,080	160
Bacteriology	3	360	270	70	10	....
Biochemistry	12	1,250	1,100	120	10	20
Biophysics	2	180	170	....	....	10
General biology	16	1,740	510	810	400	20
General botany	9	970	460	350	160	....
General zoology	14	1,450	600	560	290	....
Genetics	5	580	430	110	40	....
Microbiology	8	900	590	260	20	30
Pharmacology	4	460	430	20	....	10
Physiology	10	1,020	690	220	90	10
Plant pathology	1	120	120	....	....	....
Other biological sciences	16	1,720	1,250	370	50	50
Business and commerce	100	6,900	3,490	2,210	860	350
Accounting	29	1,980	900	750	250	80
Business (or commercial) education	15	1,020	260	380	370	10
Finance	5	370	280	50	20	10
General business	20	1,350	620	550	130	60
Management	5	330	160	90	10	60
Other business and commerce	27	1,850	1,260	390	80	120
Education and related fields	100	10,640	3,870	3,850	3,110	70
Audiovisual education	1	150	70	30	40	....
Educational psychology	14	1,520	550	560	400	20
Elementary education	26	2,750	830	1,040	870	10
Foundations: Historical, social, and philosophical	7	780	220	280	260	10
Industrial arts	10	1,070	200	260	600	10
Secondary education	18	1,940	660	840	430	10
Services: Administrative and supervisory	7	750	400	150	200	....
Services: Student personnel, counseling, and guidance	5	480	300	120	60	....
Other education	11	1,200	640	300	240	10
Engineering	100	9,410	6,270	970	30	2,140
Aeronautical engineering	4	400	250	20	....	130
Agricultural engineering	3	300	270	....	10	20
Chemical engineering	7	660	470	50	....	140
Civil engineering	18	1,710	1,280	190	....	240
Electrical engineering	21	2,000	1,270	180	....	550
Engineering science fields	4	410	280	50	....	70
Graphics	4	340	280	40	....	10
Industrial engineering	3	280	200	40	....	40
Materials engineering	4	370	240	20	....	110
Mechanical engineering	23	2,120	1,186	280	10	640
Other engineering	9	820	530	80	10	200
English and journalism	100	11,690	4,526	4,840	1,740	580
English and literature	95	11,110	4,180	4,750	1,620	570
Journalism	5	580	346	90	130	10
Fine arts	100	13,240	4,800	5,690	2,550	200
Art	25	3,270	1,300	1,210	690	60
Dramatics and speech	24	3,200	1,270	1,400	490	40
Music	47	6,200	1,940	2,890	1,320	40
Other fine arts	4	580	280	200	40	50
Foreign languages and literature	100	7,410	3,400	3,420	400	190
Classical	13	980	390	550	20	....
French	31	2,280	870	1,110	230	60
German	21	1,520	670	780	40	30
Spanish	22	1,630	788	720	80	30
Russian	6	420	240	130	....	50
Other (including philology)	8	610	440	140	20	10

Table 11.—Percent of teaching faculty in each teaching field within each teaching area and estimated number of teaching faculty in each field, by type of universities and 4-year colleges: Aggregate United States, spring 1963—Continued

Primary teaching area	Percent of teaching faculty in each field within each area	Total number	Estimated number of teaching faculty by type of institution			
			Universities	Liberal arts	Teachers colleges	Technological institutions
Health fields	100	7,340	6,470	790	80	...
Dentistry	7	530	530	...	...	...
Medicine	46	3,380	3,270	120	...	...
Nursing	28	2,040	1,470	510	50	...
Pharmacy	6	410	346	60	...	...
Other health fields	13	990	860	90	30	...
Home economics	100	1,930	920	710	250	40
Law	100	1,430	1,240	180	...	10
Mathematics	100	7,570	3,180	2,640	1,060	690
Philosophy	100	2,180	910	1,120	130	20
Physical and health education	100	6,240	2,050	2,690	1,300	200
Physical sciences	100	11,710	5,510	3,850	1,030	1,310
Chemistry	44	5,190	2,080	2,100	490	510
Geology and earth sciences	14	1,680	990	470	70	150
Physics	36	4,180	2,060	1,180	330	600
Other physical sciences	6	660	370	110	140	50
Psychology	100	3,800	1,900	1,450	380	50
Child and developmental	5	180	90	60	20	...
Clinical	19	720	390	250	70	10
Counseling and guidance	12	440	170	140	140	...
Experimental	27	1,020	580	410	20	10
General psychology	11	410	80	240	70	10
Industrial	4	140	110	30	...	...
Psychological statistics	3	90	70	10	10	...
Social	11	400	250	110	20	20
Other psychology	11	400	160	200	20	20
Religion and theology	100	2,110	670	1,390	30	20
Social sciences	100	16,790	7,860	6,200	2,090	640
Anthropology	4	720	530	150	40	10
Economics	19	3,160	1,540	1,200	320	110
History	35	5,800	2,050	2,510	880	360
Political science and government	17	2,870	1,500	1,050	210	110
Social work	4	680	560	120	10	...
Sociology	14	2,370	1,010	960	340	20
Other social sciences	7	1,190	680	220	240	40
All other fields	100	2,590	1,390	330	300	510
Architecture	26	660	530	30	10	90
Data processing	5	120	60	...	...	50
General humanities	8	210	130	40	10	30
Geography	8	210	110	20	80	...
Library science	19	480	220	120	140	10
Military science	22	570	120	110	30	320
TV, radio	4	90	70	10	...	10
All other fields	10	250	160	60	30	...

Source: Teaching Faculty in Higher Education, 1962-63: Primary Teaching Areas and Contract Salaries. OE-53022, Office of Education, Department of Health, Education and Welfare

Social Welfare Workers

In 1960, a report 14/ on the estimated number of social welfare workers, including recreation workers, was prepared from a survey of social welfare agencies. The estimated 116,000 persons employed in 1960 were distributed among the following types of agencies.

State and local government agencies - - - -	69,500
State and local voluntary agencies - - - -	39,600
Federal government agencies - - - - - - - -	4,000
National voluntary agencies - - - - - - - -	2,600

About 30 percent of the social welfare workers were employed in public assistance programs and a large number were also engaged in child welfare work, as shown below. The report also provides information on a number of other characteristics of social welfare work.

Total -	1/115,800
Public assistance - - - - - - - - - - - - - -	35,200
Other family services - - - - - - - - - - - -	8,600
Child welfare work - - - - - - - - - - - - - -	32,900
Rehabilitation services - - - - - - - - - - -	2,500
Medical social work - - - - - - - - - - - - -	3,400
Psychiatric social work - - - - - - - - - - -	5,200
Services to adult offenders - - - - - - - - -	5,300
Services to aged in institutions - - - - - - -	800
Group work - - - - - - - - - - - - - - - - - -	10,900
Community organization - - - - - - - - - - - -	7,600
Teaching social work - - - - - - - - - - - - -	900
Recreation programs - - - - - - - - - - - - -	10,400

1/ Includes data for programs in addition to those shown separately.

14/ National Social Welfare Assembly, Inc. Salaries and Working Conditions of Social Welfare Manpower in 1960, a survey conducted by the U.S. Department of Labor, Bureau of Labor Statistics, in cooperation with the National Social Welfare Assembly, Inc., and the U.S. Department of Health, Education, and Welfare.

Policemen and F.B.I. Agents

The Federal Bureau of Investigation, as a part of its program to help coordinate the efforts of all law enforcement agencies, compiles and can provide an estimate of the number of policemen employed in city and county police departments which submit such employment data to the F.B.I. Upon request, the Federal Bureau of Investigation can also provide an estimate of the number of F.B.I. agents employed at a specific time.

Table 12. Employment of Policemen and F.B.I. Agents, 1960-64

Occupation	Employment (in thousands)				
	1960	1961	1962	1963	1964
City and county policemen 1/	176	176	180	182	181
F.B.I. agents	--	--	6	6	6

1/ Crime in the United States, an annual summary of the Uniform Crime Reports submitted to the F.B.I. The number of full-time police officers employed by city and county police departments is calculated from data on the number of full-time police department employees. Since this source does not cover cities of under 2,500 population and is concerned only with full-time personnel, the employment figures shown above are less than a full count.

Employment by Occupation on Oceangoing Ships

The Maritime Administration, U.S. Department of Commerce, published job distributions for officers and unlicensed personnel aboard active oceangoing ships of 1,000 gross tons or over in supplements to its 1959 and 1960 maritime manpower reports. Although employment on these ships represents only about 60 percent of total employment in the deep sea transportation industry, the occupations specified are found almost exclusively on shipboard and are not likely to be associated with land-based operations. The occupational employment estimates in these reports are, therefore, considered to be reasonably accurate for the positions covered. However, the supplemental reports have been discontinued and similar reports are not planned for the next few years.

The 1959 and 1960 data are summarised in table 13.

Table 13. Employment in Selected Occupations on Oceangoing Ships [1/]

Occupation	Employment (in thousands)	
	Jan 1, 1960	Jan. 1, 1959
Total employment	47.0	51.6
Master and deck officers	4.5	4.7
Seamen and bosun mates	11.0	12.1
All other deck department personnel	1.8	1.8
Staff department personnel	.9	1.1
Engineers	5.3	5.6
Electricians	1.1	1.5
Oilers and wipers (engine-room)	8.3	8.5
All other engine department personnel	1.3	1.4
Messmen and galley utility men	5.9	6.6
Cooks and bakers	2.8	3.3
All other catering and galley personnel	4.0	5.1

[1/] Limited to ships of 1,000 gross tons or over. Excludes MSTS Civil Service-manned and contract-operated tankers.

Source: U.S. Department of Commerce, Maritime Administration, Maritime Manpower Report, Annual Supplement - Job Distribution by Ratings.

Occupational Employment Data from Federal Regulatory Agencies

Mandatory reports filed with Federal regulatory agencies usually provide reliable employment data for broad occupational categories within specific regulated industries. Usable data for a number of specific occupations, particularly those unique to the regulated industries, may also be obtained from these reports. Reports are required from interstate airline, railroad, telephone, telegraph, pipeline, and trucking firms. Except for trucking, the interstate portion of each of these industries includes a high proportion of total employment in the industry and the reported occupational data are, therefore, relatively complete for each industry. However, the broad occupational classifications included in these reports are usually geared to divisions of work (e.g., flight personnel, platform employees, etc.) and are not consistent with generally accepted occupational classifications (e.g., Census). Nevertheless, the employment trends in the broad occupational categories may give an indication of the change in employment of the specific occupations within the categories.

The Interstate Commerce Commission (ICC) receives reports from Class I railroads which include monthly employment data, annual averages for 128 occupational divisions, and average annual employment estimates for several occupational categories reported by the Pullman Company and the Railway Express Agency, Inc. The combination of these three reports covers about 94 percent of total railroad employment. Many of the job classifications, however, are not limited to a single occupation. For example, the railroad industry occupation "carmen" includes painters, upholsterers, welders, patternmakers, and mill machine operators. Although the ICC employment data for a number of occupations may be comparable to Census classifications, such data are most useful for providing a total employment count for "railroad" occupations such as railroad conductors and locomotive engineers. In this bulletin, the detailed ICC occupational data have been reclassified into estimates for broad occupational groups similar to the Census classification system. These are shown, together with data for selected detailed occupations, in table 14. The ICC also receives annual reports from interstate oil pipeline companies and interstate property and passenger motor carriers. Reports for the oil pipeline industry cover the entire Federally regulated industry. 15/ In contrast, interstate property and passenger motor carriers account for only a fraction of the employment in their respective industries.

15/ Unregulated (intrastate) operations which involve roughly 13 or 14 percent of the oil pipeline mileage, according to the Bureau of Mines surveys, are not covered.

The Federal Communications Commission and the U.S. Independent Telephone Association publish annual reports which contain employment information for broad occupational categories and a few selected occupations within the telephone industry. The combination of the two reports covers all telephone industry employment except for officials and managerial assistants employed by the Bell System. In addition, the FCC publishes occupational employment data (except for officials and managerial assistants), which cover all companies in the telegraph industry with annual revenues exceeding $50,000. The number of employees covered by these data represents about 90 percent of telegraph industry employment.

The Federal Aviation Agency provides an annual count of pilots and stewardesses employed by U.S. Civil Air Carriers. It also separates the remainder of the total employment in this industry into a few broad occupational categories. The scheduled airlines covered by FAA statistics account for four-fifths of the employment in the air transportation industry. The FAA also reports, on a semiannual basis, the number of air traffic controllers which it employs. These workers represent a portion of the Census occupation "radio operators." The employment for selected occupations found in regulated industries is shown in table 14.

Table 14. Employment in Selected Occupations, Regulated Interstate Industries, 1960-65
(In thousands)

Occupation 1/	1960	1961	1962	1963	1964	1965
Class I railroads (line-haul) 2/	780.5	717.5	700.1	680.0	665.0	
Professional, technical, and kindred workers	19.3	18.5	18.1	17.9	17.8	
Managers, officials, and proprietors	73.5	70.1	69.7	69.6	69.7	
Conductors, railroad	39.0	36.9	37.0	37.1	37.4	
Clerical and kindred workers	154.1	144.4	138.0	132.0	128.9	
Office machine operators	7.0	6.6	6.3	6.0	6.0	
Secretaries	3.8	3.6	3.5	3.5	3.4	
Stenographers and typists	10.4	9.5	9.0	8.6	8.3	
Telephone operators	2.8	2.5	2.4	2.3	2.1	
Sales workers	1.8	1.7	1.6	1.5	1.5	
Craftsmen, foremen and kindred workers	254.0	236.0	235.2	231.9	225.6	
Carpenters	7.1	6.5	6.3	6.1	6.0	
Linemen and servicemen (T&T)	2.5	2.4	2.3	2.3	2.3	
Blacksmiths, forgemen, and hammermen	2.0	1.7	1.8	1.8	1.8	
Boilermakers	2.3	2.1	2.0	2.0	1.9	
Stationary engineers	1.0	.9	.9	.8	.8	
Locomotive engineers	36.2	34.1	34.2	33.9	34.3	
Locomotive firemen	38.8	36.6	36.5	35.9	30.0	
Operatives and kindred workers	152.1	136.8	132.8	127.6	124.9	
Drivers and deliverymen	5.9	5.7	5.8	5.8	5.8	
Brakemen and switchmen	89.8	84.2	83.9	82.4	81.3	
Service workers	37.6	34.4	32.6	30.6	28.9	
Laborers	88.1	75.4	72.0	68.9	67.2	
Railway Express Agency, Inc. 3/	30.8	30.4	30.4	30.4	31.4	
Drivers and deliverymen	9.0	9.2	9.4	9.6	10.0	
Train messengers	1.5	1.3	1.2	1.1	1.1	
Warehouse and platform laborers	5.5	5.3	5.2	5.3	5.7	

Table 14. Employment in Selected Occupations, Regulated Interstate Industries, 1960-65--Continued
(In thousands)

Occupation 1/	1960	1961	1962	1963	1964	1965
The Pullman Company 4/	7.3	6.7	6.4	5.9	5.5	
Conductors	.7	.6	.6	.6	.5	
Porters	2.9	2.6	2.5	2.2	2.2	
Oil pipelines 5/	21.3	20.3	19.2	18.2	17.1	
Station engineers and pumpers	3.3	3.0	2.8	2.5	2.5	
Gager-deliverymen and oil receivers	3.6	3.4	3.2	3.1	2.9	
Pipeline repairmen	2.3	2.1	2.0	1.8	1.7	
Other mechanics	.8	.7	.7	.7	.7	
Laborers	1.1	1.1	1.2	1.2	1.1	
Scheduled airlines 6/	166.1	169.9	172.8	178.9	191.8	
Airline pilots and copilots	13.5	13.9	13.8	14.3	15.1	16.3
Airline stewardesses and pursers	10.6	11.9	12.2	13.1	14.5	17.1
Other flight personnel	3.8	4.2	4.2	4.0	4.4	4.8
Communications personnel	4.2	3.7	3.4	3.7	3.2	3.2
Mechanics and maintenance personnel	34.2	34.1	34.9	34.5	39.4	40.7
Aircraft and traffic service personnel	43.3	44.6	46.7	49.1	51.9	56.3
Office employees	35.4	36.6	37.0	37.9	40.3	42.9
All other employees	21.1	20.9	20.7	22.4	23.0	24.7
Air traffic controllers 7/	12.0	12.6	12.9	12.7	12.8	12.4
Telephone industry 8/	694.9	672.5	669.6	678.7	699.9	
Professional and semiprofessional personnel	50.5	52.0	53.4	60.9	64.0	
Business office and sales employees	49.8	51.6	52.0	51.4	52.7	
Clerical employees	144.9	142.6	142.9	142.5	147.9	
Telephone operators	216.3	196.8	188.5	189.2	193.1	
Foremen, telephone craftsmen	26.0	25.5	25.9	26.1	27.2	

Table 14. Employment in Selected Occupations, Regulated Interstate Industries, 1960-65--Continued
(In thousands)

Occupation 1/	1960	1961	1962	1963	1964	1965
Telephone industry 8/--Continued						
Central office craftsmen	58.0	59.1	62.0	63.1	65.9	
Installation and exchange repair craftsmen	71.2	72.0	73.2	75.1	77.7	
Line, cable, and conduit craftsmen	43.0	38.8	38.1	37.0	38.3	
Building, supplies, and motor vehicle employees	28.8	27.9	27.2	26.0	25.4	
Laborers	.5	.5	.5	.4	.4	
Other employees (n.e.c.)	1.7	1.5	1.4	2.4	2.3	
Telegraph industry 9/	37.6	36.5	34.9	32.8	31.6	
Professional and semiprofessional personnel	1.4	1.4	1.4	1.2	1.2	
Office superintendents	3.1	3.0	2.9	2.8	2.6	
Sales employees	.6	.6	.6	.5	.5	
Clerical employees	8.7	8.5	8.1	7.7	7.3	
Telegraph operators	8.7	8.0	7.4	7.0	6.3	
Telephone operators	1.9	1.8	1.6	1.5	1.3	
Construction, installation, and repair employees	6.6	6.9	7.1	6.5	6.9	
Building service employees	.9	.9	.8	.7	.6	
Messengers	5.9	5.6	5.1	5.0	4.5	

See footnotes on next page.

Footnotes

1/ Some broad categories include data not shown separately.

2/ Calendar year issues of Statement No. M-300: Wage Statistics of Class I Railroads in the U.S., Interstate Commerce Commission, Bureau of Accounts. Data are compiled from monthly reports submitted to ICC covering operations of 78 Class I railroads having annual operating revenues of $5,000,000 or more. The Statements include employment statistics for 128 reporting divisions (occupational categories), many of which are not limited to a single occupation.

3/ Annual issues of Transport Statistics in the U.S., Part 3, The Railway Express Agency, Inc., Interstate Commerce Commission, Bureau of Transport Economics and Statistics.

4/ Ibid., Part 2, The Pullman Co.

5/ Ibid., Part 6, Oil Pipelines.

6/ FAA Statistical Handbook of Aviation, 1964 edition (issued in 1965); published annually by the Federal Aviation Agency. Compilations are based on payroll data submitted to the Civil Aeronautics Board covering all employees of scheduled airlines. The Air Transport Association of America publishes the same data each year in Facts and Figures - Air Transportation.

7/ ATS Fact Book, Federal Aviation Agency, Air Traffic Service; published semiannually. Employment for air traffic controllers are obtained from Air Traffic Service personnel records.

8/ Industry Wage Survey: Communications, published annually by the U.S. Department of Labor, Bureau of Labor Statistics. The data are compiled from annual reports filed with the Federal Communications Commission by Class A telephone carriers (companies with annual revenues exceeding $250,000). The Annual Statistical Volume, published by the U.S. Independent Telephone Association, presents employment data compiled from an annual survey of independent telephone companies. The data shown above represent an unduplicated combination of the two studies. The total employment estimate does not include officials and managerial assistants employed by the Bell System.

9/ Industry Wage Survey: Communications, published annually by the U.S. Department of Labor, Bureau of Labor Statistics. The data are compiled from annual reports filed with the Federal Communications Commission by all companies in the telegraph industry with annual revenues exceeding $50,000.

Note: Because of rounding, sums of individual items may not add to totals.

Occupational Employment Data for the Federal Government

The U.S. Government is the largest single employer in the country. It not only employs more people than any large corporation, but it employs them in a wider variety of occupations. Most of the occupations found in private industry are also present in the Federal Government, and some of those found in Government are unique. In 1964, Federal employment averaged 2,300,000.

The U.S. Civil Service Commission compiles employment data by occupation for all Federal employees except military personnel. However, many of the 1,300 civil service occupational classifications are not compatible with commonly accepted occupational definitions (e.g., Census). Often they cover more than one occupation and sometimes cut across occupational group lines. This problem probably can be satisfactorily resolved in consulation with agency and civil service personnel, by utilizing grade level information reported for civil service classifications to allocate employment between distinct occupations or occupational groups.

In January 1965, the Civil Service Commission began publication of semiannual statistical tabulations of employment and labor turnover for a broad sample of selected white-collar, blue-collar, and postal occupations, based on a 10 percent sample of Federal employees. In the second report in the series, referring to December 1964, data were provided for 140 Federal white-collar occupations, representing approximately 85 percent of total nonpostal white-collar employment. 16/ For 1962 and earlier years, the Commission published Occupations of Federal White-Collar Workers. For 1961 and earlier years, the Commission also published Occupations of Federal Blue-Collar Workers. These publications contain employment information by detailed occupation for major Federal agencies.

Table 15 gives employment data for several selected occupations. Detailed data are shown only for those occupations which appeared to present no difficult classification problems, and which also included employment of 10,000 or more workers. Scientists, engineers, and technicians employed by the Federal Government are shown in table 9.

16/ United States Civil Service Commission, Current Federal Workforce Data as of December 1964. Processed, 1965.

Table 15. Employment in Selected Occupations in the Federal Government, 1960-65[1/]

Occupation	Employment (in thousands)					
	1960	1961	1962	1963	1964	1965
Total all occupations	2,079	2,152	2,204			
Total, white-collar workers	1,452	1,511	1,563		1,646	
Selected occupations, total	841	864	883		885	
Accountants	24	24	23		25	
Personnel and labor relations workers	21	22	24		25	
Internal revenue agents	12	12	13		13	
Postmasters	35	35	35	34	34	33
Postal clerks	237	241	242	242	242	252
Mail carriers	190	196	204	199	202	207
Office machine operators	25	23	23		24	
Secretaries, stenographers and typists	156	169	178		180	
Mail and file clerks	25	25	25		24	
Stock clerks and storekeepers	28	29	27		29	
Nurses	21	21	22		23	
Nursing assistants	35	36	36		36	
Firemen	12	12	12		11	
Guards	15	14	15		13	
Total, blue-collar workers	626	641	641			
Selected occupations, total	119	121	120			
Motor vehicle mechanics and repairmen	18	19	18			
Plumbers and pipefitters	17	18	18			
Painters and paperhangers	14	14	14			
Carpenters	14	14	14			
Truck, tractor or auto drivers	27	26	26			
Mail handlers	29	30	31	31	32	32

See footnote on next page.

Footnote

1/ Except for Post Office occupations, these data are compiled from publications and unpublished tabulations of the U.S. Civil Service Commission. Data for white-collar workers were published annually by the Commission through 1961 and for blue-collar workers through 1960 in *Occupations of Federal White-Collar Workers* and *Occupations of Federal Blue-Collar Workers*. Data on blue-collar workers for 1961 and all data for 1962 and later are from unpublished records of the Civil Service Commission. Data through 1962 refer to October 31 of each year and include only personnel stationed in the United States. Data for 1964 refer to December 31, 1964, and include in the totals Federal white-collar workers stationed outside the United States because such workers could not be extracted from the statistics. (In 1961, less than 3 percent of all Federal white-collar workers were stationed outside the United States.) The Civil Service Commission did not prepare summary tabulations of employment by occupation in 1963.

Information on Post Office occupations was obtained from a monthly report prepared by that agency's Bureau of Finance and Administration. Data refer to October of each year.

Information on employees of the Board of Governors of the Federal Reserve System, members and employees of the Congress, and employees of the Central Intelligence Agency and the National Security Agency are excluded because data are not available.

Y

Occupational Data from Wage Surveys [17]

In carrying out its responsibilities for providing information on wage rates by occupation, the Bureau of Labor Statistics incidentally collects data which should prove useful for making estimates of employment for a number of occupations in major sectors of the economy. Through the Community Wage Surveys (CWS), field representatives of the Bureau gather information on total employment and on the number of workers at various wage rates for about 40 occupations common to many industries. The occupations are largely those found in office clerical, skilled maintenance, materials movement, and custodial work (table 16). Separate surveys provide data for a few professional, administrative, and technical occupations. In addition, Industry Wage Surveys (IWS) yield information on detailed specific production worker occupations for a number of industries.

Community Wage Surveys

Since 1961, the Community Wage Survey program has been operated through annual sample surveys of establishments in at least 80 metropolitan areas. The areas are chosen to be representative of all 212 (1961) Standard Metropolitan Statistical Areas (SMSA). Within each area, the sample is stratified by industry and size of plant. About 12,000 establishments are contacted each year. The field agents used in this program become experienced in classifying employees into the occupations covered by the surveys, and on their visits review job information supplied by each establishment to determine the number employed, by wage rate, in each occupation.

Employment in the establishments from which the Community Wage Survey sample is drawn was estimated to be 17 million in 1961; one-fourth of all employment in the United States. About 2.8 million workers, 17 percent of all employment covered by the CWS, and 4 percent of total employment in the economy, were identified by occupation (table 16). Major portions of many of the manufacturing, transportation, and other industries are surveyed (table 17). The sample is stratified within communities, by 2-digit SIC industries, and by size of establishment (number of workers).

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[17] The information on occupational data from wage surveys is based on statistics and reports prepared by the Division of Wages and Industrial Relations of the Bureau of Labor Statistics.

Table 16. Estimated Payroll Employment in Selected Occupations and Industries, Medium and Large-size Establishments, All Standard Metropolitan Statistical Areas, U.S., 1961 1/

Occupation 2/	Number (in thousands)
Total employment	16,872
Total in all selected occupations	2,812
Office clerical workers	3,155
Accounting clerical	317
Billers, machine	22
Bookkeeping machine operators	65
Accounting clerks	156
Computometer operators	34
Payroll clerks	41
Machine tabulation	110
Keypunch operators	60
Tabulating machine operators	50
Secretaries, stenographers, and typists	509
Secretaries	184
Stenographers	140
Typists	185
Other selected clerical occupations	218
Switchboard operators	60
Order clerks	39
File clerks	78
Duplicating machine operators	5
Office boys or girls	36
Office clerical workers, not elsewhere classified	1,999
Production workers	10,611
Maintenance occupations	423
Maintenance craftsmen	371
Carpenters	21
Electricians	51
Machine tool operators, toolroom 3/	25
Machinists, maintenance	45
Mechanics, automotive (maintenance)	44
Mechanics, maintenance	61
Millwrights	25
Painters, maintenance	15

Table 16. Estimated Payroll Employment in Selected Occupations and Industries, Medium and Large-size Establishments, All Standard Metropolitan Statistical Areas, U.S. 1961 1/--Continued

Occupation 2/	Number (in thousands)
Plumbers and pipefitters, maintenance	29
Sheet metal workers, maintenance	6
Tool and die makers 3/	49
Other maintenance workers	52
Oilers	15
Helpers, maintenance trades	37
Power plant occupations	43
Stationary engineers	24
Stationary firemen	19
Materials movement occupations	740
Order fillers	78
Packers, shipping	65
Shipping and receiving clerks	60
Truck drivers	205
Power truckers	87
Laborers, material handling	245
Custodial occupations	352
Elevator operators, passenger	22
Guards and watchmen	78
Janitors, porters, and cleaners	251
All other production workers	9,053
Selected professional and technical workers	100
Industrial nurses (registered)	9
Draftsmen (including tracers)	91
All other nonproduction workers	3,006

1/ Special tabulation of CWS data. Excludes small-size establishments and the following industries: Agriculture, mining, construction, education and other professional services, and government.

2/ The detail collected by the CWS is condensed here. For example, tabulating machine operators are shown as a group, although data are collected separately for three skill levels in this occupation.

3/ Other than in tool and die jobbing shops.

Note: Because of rounding, sums of individual items may not equal totals.

Table 17. Estimated Payroll Employment by Industry, Total U.S. and Medium- and Large-Size Establishments in Standard Metropolitan Statistical Areas, 1961
(In thousands)

SIC	Industry	U.S. total	Medium and large-size establishments in metropolitan areas (CWS) 1/	Percent in metropolitan areas
	Total	2/ 53,989	16,872	31
13	Crude petroleum and natural gas	303	3	1
	Manufacturing	16,326	9,604	59
19	Ordnance and accessories	244	181	74
20	Food and kindred products	1,775	968	55
21	Tobacco manufactures	91	46	50
22	Textile-mill products	893	339	38
23	Apparel and related products	1,214	466	38
24	Lumber and wood products	583	81	14
25	Furniture and fixtures	368	133	36
26	Paper and allied products	601	349	58
27	Printing, publishing, and allied products	917	500	55
28	Chemicals and allied products	828	422	51
29	Petroleum refining and related industries	202	152	75
30	Rubber and miscellaneous plastic products	375	276	74
31	Leather and leather products	358	192	54
32	Stone, clay, and glass products	582	251	43
33	Primary metal industries	1,143	914	80
34	Fabricated metal products	1,084	687	63
35	Machinery, except electrical	1,419	1,066	75
36	Electrical machinery, equipment and supplies	1,473	922	63
37	Transportation equipment	1,449	1,283	89
38	Instruments and related products	347	198	57
39	Miscellaneous manufacturing	378	178	47

See footnotes at end of table.

Table 17. Estimated Payroll Employment by Industry, Total U.S. and Medium- and Large-Size Establishments in Standard Metropolitan Statistical Areas, 1961--Continued
(In thousands)

SIC	Industry	U.S. total	Medium and large size establishments and metropolitan areas (CWS) 1/	Percent in metropolitan areas
	Transportation	2,461	1,198	49
40	Railroad transportation	817	555	68
41	Local and interurban passenger transit	277	103	37
42	Motor freight transport and storage	845	293	35
45	Air transportation	196	143	73
46	Pipeline transportation	22	5	23
44& 47	Other transportation	304	99	33
48	Communication	829	566	68
49	Electric, gas and sanitary services	614	364	59
50	Wholesale trade	2,993	896	30
	Retail trade	8,344	2,043	24
53	General merchandise stores	1,578	822	52
54	Food stores	1,355	487	36
56	Apparel and accessories stores	612	161	26
57	Furniture and home furnishings	389	48	12
58	Eating and drinking places	1,665	228	14
52, 55& 59	Other retail trade	2,745	297	11

Table 17. Estimated Payroll Employment by Industry, Total U.S. and Medium- and Large-size Establishments in Standard Metropolitan Statistical Areas, 1961--Continued
(In thousands)

SIC	Industry	U.S. total	Medium and large-size establishments in metropolitan areas (CWS) 1/	Percent in metropolitan areas
	Finance, insurance and real estate	2,731	1,213	44
60	Banking	694	436	63
61	Credit agencies other than banks	271	69	25
62	Security dealers and exchanges	128	67	52
63	Insurance carriers	844	515	61
64	Insurance agents, brokers, and services	204	43	21
65	Real estate	514	79	15
66& 67	Other finance, insurance, and real estate	76	4	5
	Services	3/7,610	982	13
70	Hotels and lodging places	577	211	37
72	Other personal services	899	208	23
73	Business services	802	333	42
75& 76	Repair services	n.a.	13	n.a.
78	Motion pictures	186	64	34
86	Nonprofit welfare and religious organizations	n.a.	66	n.a.
89	Miscellaneous services	372	97	26

1/ Establishments with 50 or more employees, except in a few of the largest cities in which the minimum employment for most industries is 100.

2/ From BLS payroll employment series. Includes employment in mining, contract construction, selected service industries, and government which are not shown separately because they are not covered in the wage surveys.

3/ Includes service industries not shown separately because they are not covered in the wage surveys.

Note: Because of rounding, sums of individual items may not equal totals.

The major problem in using the CWS data as an aid in analyzing occupational employment levels and trends is the difficulty of determining the relation of the CWS occupational estimates to total employment in each occupation, nationally and in specific industries. Excluded from the CWS are all workers outside of metropolitan areas and workers in small-size plants. The minimum size of establishment included in the CWS varies from 50 to 100 employees, depending on the area and industry. Also excluded are establishments in the agriculture, mining, and construction industries, and all government employment. Since the survey depends on payroll information, the self-employed are not included. Because of the exclusion of small establishments and of the self-employed, many of the industries in the service sector are covered only sparsely.

Though useful as estimates of employment and changing occupational proportions in medium- and large-size plants in metropolitan areas, the CWS occupational data would be of greater help to the manpower analyst if converted to an annual series of estimates of total employment in each occupation in specific industries. A rough approach to estimates of total employment in each of the approximately 40 occupations could be made for a number of industries by using the CWS data as occupational ratios (the percent of total employment in the plant represented by a particular occupation) for specific industries. The ratios could then be applied to estimates of total U.S. employment in each industry as reported in the BLS payroll employment series. This approach would be relatively satisfactory for those industries in which the CWS coverage is a large proportion of the total. For example, in the manufacturing group, the employment coverage of the CWS ranges from 75 to 90 percent of the total for the petroleum refining, rubber and miscellaneous plastic products, machinery, primary metal products, transportation equipment, and ordnance and accessories industries. However, even in the industries in which the CWS coverage is a high proportion of the total, there is likely to be a bias toward high estimates of white-collar employment and low estimates of blue-collar, due to the concentration of the surveys in metropolitan areas and the exclusion of small-size plants. Large establishments in metropolitan areas are more likely to maintain central offices and to engage in extensive recordkeeping and research than are the smaller nonmetropolitan area establishments.

However, for illustrative purposes, the recognizing the drawbacks mentioned, rough employment estimates were derived in the manner just described. Data were prepared only for those manufacturing industries with at least 75 percent of total industry employment located in metropolitan areas and in the size groups from which the CWS sample is drawn (table 18).

Table 18. Employment in Selected Occupations and Industries, Based on Community Wage Surveys, 1961
(In thousands)

Occupation	Petroleum refining	Rubber and miscellaneous plastics products	Primary metals	Machinery, except electrical	Transportation equipment	Ordnance and accessories
Total industry employment - - - - -	201.9	375.3	1,142.7	1,418.6	1,458.0	234.7
Total employment in selected occupations - - - - - - - - - - - - -	42.8	51.7	172.3	228.0	209.4	40.0
Office clerical workers						
Accounting, clerical - - - - - - - - - -	2.6	4.4	10.1	15.3	9.0	1.3
Billers, machine - - - - - - - - - -	(1/)	.2	.4	.6	.3	(1/)
Bookkeeping machine operators - - -	.1	.4	.7	2.2	.7	.1
Accounting clerks - - - - - - - - -	1.8	2.3	5.6	8.1	5.1	.8
Comptometer operators - - - - - - -	.4	.5	.4	1.5	1.2	.1
Payroll clerks - - - - - - - - - - -	.3	1.1	3.0	2.8	1.6	.2
Machine tabulation - - - - - - - - - -	1.1	1.8	4.0	7.1	6.8	2.2
Keypunch operators - - - - - - - - -	.6	.9	2.3	3.8	3.4	1.3
Tabulating machine operators - - - -	.6	.9	1.7	3.3	3.4	.9
Secretaries, stenographers, and typists - - - - - - - - - - - - - -	5.9	6.8	15.1	37.5	31.9	12.0
Secretaries - - - - - - - - - - - -	1.9	2.5	5.3	11.9	10.5	3.6
Stenographers - - - - - - - - - - -	3.0	2.2	5.0	12.0	12.7	3.8
Typists - - - - - - - - - - - - - -	1.1	2.0	4.8	13.6	8.7	4.6

Table 18. Employment in Selected Occupations and Industries, Based on Community Wage Surveys, 1961--Continued

(In thousands)

Occupation	Petroleum refining	Rubber and miscellaneous plastics products	Primary metals	Machinery, except electrical	Transportation equipment	Ordnance and accessories
Other selected clerical workers - - -	1.6	2.1	7.4	10.2	5.6	2.0
Switchboard operators - - - - - - -	.4	.6	1.6	3.1	1.8	.4
Order clerks - - - - - - - - - - -	.1	.7	3.0	2.2	.3	(1/)
File clerks - - - - - - - - - - - -	.5	.3	1.4	3.0	2.4	1.1
Duplicating machine operators - - -	.1	.2	.4	.4	.2	.1
Office boys or girls - - - - - - -	.5	.4	.9	1.5	.9	.4
Production workers						
Maintenance craftsmen - - - - - - - -	14.8	14.4	58.8	49.8	60.5	7.7
Carpenters - - - - - - - - - - - -	1.7	.6	3.4	2.0	2.0	.6
Electricians - - - - - - - - - - -	1.9	2.0	10.4	6.7	9.1	1.2
Machine tool operators, tool room -	(1/)	.9	2.8	2/ 8.8	9.1	.9
Machinists, maintenance - - - - - -	2.6	2.0	10.2	5.9	4.3	.7
Mechanics, automobile, maintenance-	.4	.1	1.5	1.0	1.6	.2
Mechanics, maintenance - - - - - -	2.2	3.6	13.8	5.6	5.6	.6
Millwrights - - - - - - - - - - - -	.2	10.0	7.1	4.3	7.2	.5
Plumbers and pipefitters, maintenance - - - - - - - - - - -	4.2	1.9	5.2	2.7	5.0	.7
Painters, maintenance - - - - - - -	1.3	.2	1.3	10.0	1.6	.3
Sheet metal workers - - - - - - - -	.2	.4	.7	.9	1.2	.2
Tool and die makers - - - - - - - - 2/	(1/)	1.7	2.3	11.0	13.6	1.8
Other maintenance workers - - - - - -	6.4	1.3	13.7	3.4	4.1	.8
Oilers - - - - - - - - - - - - - -	.1	.9	3.4	1.4	2.5	.2
Helpers, maintenance, trade - - - -	6.3	.5	10.3	2.0	1.6	.6

Table 18. Employment in Selected Occupations and Industries, Based on Community Wage Surveys, 1961--Continued
(In thousands)

Occupation	Petroleum refining	Rubber and miscellaneous plastics products	Primary metals	Machinery, except electrical	Transportation equipment	Ordnance and accessories
Power plant workers	1.4	1.6	4.0	3.0	3.0	.5
Stationary engineers	.6	.8	2.2	1.3	1.7	.3
Stationary firemen	.7	.9	1.9	1.7	1.3	.2
Material movement workers	4.8	11.7	34.3	50.7	47.4	3.8
Order fillers	.2	1.1	.6	4.3	2.0	.2
Packers, shipping	(1/)	1.4	2.6	6.6	4.3	.7
Shipping and receiving clerks	.3	1.1	2.8	5.3	7.2	.4
Truck drivers	1.7	.9	4.5	3.7	4.4	.3
Power truckers	1.1	3.3	12.4	10.4	14.1	10.4
Laborers	1.6	3.9	11.4	20.4	15.5	1.2
Custodial workers	3.4	6.2	19.4	24.2	27.2	5.4
Elevator operators, passenger	.1	(1/)	.1	.1	.1	(1/)
Guards and watchmen	1.1	1.6	7.6	8.2	9.8	2.4
Janitors, porters, and cleaners	2.1	4.5	11.7	15.9	17.3	3.0
Selected professional and technical workers						
Industrial nurses (registered	.2	.3	1.2	1.4	1.3	.2
Draftsmen (including tracers)	.7	1.1	4.3	25.4	12.6	4.0

1/ Less than 50.
2/ Except in tool and die jobbing shops.

Note: Because of rounding, sums of individual items may not equal totals.

A better way to make use of CWS data for occupational estimates would be to develop occupational ratios by size of plant classes for each industry, and apply these ratios to estimates of total employment in each size class. Estimates would still have to be made of the occupational ratios for small-size plants, but these would be more firmly based if the variation in ratio by size class were available for the larger plants. The occupational ratios should be prepared by detailed industry--at the 4-digit SIC level, if possible. However, the computation difficulties in carrying out this approach have not been fully explored, and CWS data will be sparse and subject to large sampling error in some of the industry size-of-plant cells. The pattern of occupational ratios by size of establishment for the larger establishments may prove of little value in estimating occupational ratios for the smaller establishments.

For the manufacturing industries, an additional guide is available to adjust the CWS data. In both the CWS and the BLS payroll employment series, employment of production workers, as well as total employment is reported. The same definition of production workers is used in both series. The production worker group is almost entirely comprised of blue-collar plant workers and service workers. A production worker ratio in the CWS which is lower than that in the nationwide BLS payroll series would indicate, for all production worker occupations, the extent of the bias due to the concentration of the CWS in metropolitan areas and large-size plants.

In addition to the desirability noted above of adjusting the CWS sample of establishments to refer to a larger--possibly complete--set of establishments, including small plants in SMSA's and plants outside of SMSA's, it would be desirable to evaluate the completeness of the CWS occupational count within visited establishments. An undercount, of unknown importance, is present in employment information derived incidentally to the collection of wage rates. Handicapped workers, part-time and temporary workers, beginners, and others who might be subject to special rates of pay are excluded from the count shown for specific occupations but not from total employment in the establishment. For purposes of estimating employment in each occupation, these groups should be included. In addition, the occupational definitions adopted for wage rate analysis may be more restrictive than needed for occupational analysis.

Until the effects of the various exclusions can be evaluated, employment estimates for individual occupations derived from CWS data are of doubtful value. However, annual data, if available for a number of years, may provide useful indications to overall trends in employment for specific occupations in particular industries.

Industry Wage Surveys

The Bureau of Labor Statistics also conducts industry wage surveys on a sample basis for particular industries at regular recurring intervals. Most of these surveys are scheduled to be conducted on a 5-year cycle; the remainder on either a 3-year or annual basis. In most of these studies, the detailed data, collected by personal visits of field economists, are limited to selected production worker occupations concentrated in the industry being studied, or perhaps, found exclusively in that industry. The reports contain estimates of total employment for establishments within the scope of the survey, and of all production workers in the case of studies of manufacturing industries. Occasionally, data on wage rates and number of employees are also gathered for a small number of office worker occupations.

The usefulness of occupational employment data contained in a specific wage study depends on a number of factors. Foremost among these is the comparability between the industry coverage in a particular survey and the most nearly similar industry for which total employment data are available. Small size plants are almost always excluded and parts of industries are sometimes excluded. If total (or production worker) employment within the scope of the wage survey were only a small portion of total (or production worker) employment in the industry, the occupational data are probably not very useful.

Other factors which determine the usefulness of industry wage surveys for deriving occupational employment estimates for entire industries are the geographical coverage and the minimum size of the establishments included, measured in terms of employment. The size of the establishments excluded ranges from those with fewer than 4 employees to those with fewer than 100 employees, depending on the structure of the industry surveyed. Most frequently, the establishments surveyed are selected from those employing 20 or more workers.

Separate auxiliary units, such as central offices, are usually excluded from the industry wage surveys. In some studies, research laboratories, warehouses, or other units are excluded. Obviously, the occupational composition of the excluded units is somewhat different from those units covered in the study. However, since employment data are obtained only for production worker occupations, there is a reasonable solution to this problem. Relatively few production workers (outside of custodial workers) are employed in the excluded units, with the possible exception of warehouses. Therefore, the employment data for specific occupations may be inflated by the proportionate difference between the production worker total within the scope of the industry wage study and the production worker total reported in the BLS Industry Employment Series for the industry concerned, when that difference is relatively small. The definition of production workers used in the wage surveys is the same as that used in the BLS Industry Employment Statistics. Since 1957, the industry employment within the scope of the various industry wage surveys has ranged from 20 percent for auto dealer repair shops to 99 percent for cigarettes (table 19).

More difficult to solve is the problem posed by restrictions in the general definition which applies to all occupations selected for study in the industry wage surveys. Working supervisors, apprentices, learners, beginners, trainees, handicapped, part-time, temporary and probationary workers, and others subject to special pay rates are excluded from the data for selected occupations, although they are included in the data for all production workers. This practice differs from the accepted practice of tabulating occupational employment data, in that these workers are usually included in the count for their specific occupation, except that apprentices are tabulated separately by skill. Also, the occupational definitions adopted for wage surveys may be more specific than those used in other collection programs, such as the population census. No research has been done to evaluate the importance of these exclusions. However, it is believed that useful occupational data can be obtained from surveys which cover high proportions of industry employment.

It should be kept in mind that industry wage surveys will not give complete occupational patterns for an industry, because they give detailed occupational employment information for only a select group of production workers. In no case does an industry wage survey provide complete coverage for all production worker occupations.

Table 20 lists occupations which covered more than 10,000 employees within specified industries at the time the latest industry wage surveys were conducted in these industries.

Table 19. Industry Wage Surveys Giving Occupational Employment Data

Industry surveyed	SIC number	Percent of industry employment within scope 1/	Minimum establishment size	Latest period covered	Proposed recurring cycle
			Nationwide studies		
Cigarettes - - - - - - - - - - - - - -	2111	99	None	July-Aug. 1965	5-year
Synthetic fibers - - - - - - - - - - -	2823-2824	98	None	October 1958	5-year
Hosiery - - - - - - - - - - - - - - -	2251-2252	96	20	Sept-Oct. 1964	3-year
Pulp, paper, and paperboard mills -	261-263	94	50	January 1962	5-year
Leather, tanning and finishing - - -	3111	94	20	March 1963	5-year
Iron and steel foundries - - - - - -	332	94	20	November 1962	5-year
Meat products - - - - - - - - - - - -	2011,2013	93	(2011)20 (2013)10	November 1963	5-year
Cigars - - - - - - - - - - - - - - - -	2121	93	8	April-May 1964	5-year
Men's and boys' suits and coats - -	231	92	5	October 1963	5-year
Men's and boys' shirts and nightwear - - - - - - - - - - - - - - -	2321	91	20	April-June 1964	3-year
Work clothing - - - - - - - - - - - -	2328	91	20	May-June 1964	3-year
Textile dyeing and finishing - - - -	226	91	20	April-May 1961	5-year
Textiles, cotton - - - - - - - - - - -	(	(	(	May 1963	3-year
Textiles, synthetic and silk - - - -	(221-3	(91	(20	May 1963	3-year
Textiles, wool - - - - - - - - - - - -	(and 228	(as of May '63)	(	June 1962	5-year
Electric and gas utilities - - - - -	491-3	2/ 90	100	July 1962	5-year
Footwear - - - - - - - - - - - - - - -	3141	89	50	April 1962	3-year
Petroleum refining - - - - - - - - - -	291	87	100	July 1959	5-year
Candy and other confectionary products - - - - - - - - - - - - - -	2071	86	20	Nov-Dec. 1960	5-year
Furniture, wood household - - - - -	2511	86	20	July 1962	3-year

Table 19. Industry Wage Surveys Giving Occupational Employment Data--Continued

Industry surveyed	SIC number	Percent of industry employment within scope 1/	Minimum establishment size	Latest period covered	Proposed recurring cycle
				Nationwide studies	
Nonferrous foundries - - - - - - - - -	336	85	8	May 1960	5-year
Paints and varnishes - - - - - - - - -	2851	84	8	May 1961	5-year
Miscellaneous plastics products - -	307	84	20	June 1964	5-year
Structural clay products - - - - - - -	325	83	20	July-Aug. 1964	5-year
Bituminous coal mining - - - - - - - -	12	80	10	November 1962	5-year
Glass and glassware, pressed or blown - - - - - - - - - - - - - - -	322	79	20	May 1964	5-year
Fabricated structural steel - - - -	3441	73	20	Oct-Nov. 1964	5-year
Fertilizer - - - - - - - - - - - - - -	2871-2872	73	8	April 1962	3-year
Hotels and motels - - - - - - - - - -	7011/7013	2/72	20	June 1963	5-year
Motor vehicles and parts - - - - - - -	371 plus parts of 34, 35,36 and 38	80 of 371	50	April 1963	5-year
Flour and other grain mill products - - - - - - - - - - - - - -	2041	67	20	November 1961	5-year
Crude petroleum and natural gas production - - - - - - - - - - -	131	2/66	8	May-June 1960	5-year
Basic iron and steel - - - - - - - - -	Part of 3312 & 3315-7	62 (of SIC 331)	250	March 1962	5-year
Hospitals - - - - - - - - - - - - - -	806	2/59 (of non-gov't)	100	May-July 1961	3-year
Life insurance - - - - - - - - - - - -	Part of 631 (home offices only)	2/32	50	May-July 1961	5-year

Table 19. Industry Wage Surveys Giving Occupational Employment Data--Continued

Industry surveyed	SIC number	Percent of industry employment within scope 1/	Minimum establishment size	Latest period covered	Proposed recurring cycle
			Nationwide studies		
Laundries and cleaning services (24 areas) - - - - - - - - - - - - -	7211,7213 + 7216	25	4	June 1963	3-year
Eating and drinking places - - - - -	58	2/77	4, exc. 10 in 24 large metropolitan areas	June 1963	Unscheduled
			Regional and area studies		
Women's and misses' coats and suits (10 areas) - - - - - - - - -	part of 2337	57	4	August 1962	5-year
Machinery, except electrical (21 areas) - - - - - - - - - - - - -	35	53	20, 8 for selected segments	April-June 1965	Annual
Women's and misses' dresses (12 areas) - - - - - - - - - - - - -	part of 2335	51	8	March-April 1963	5-year
Sawmills and planing mills (southern) - - - - - - - - - - - - -	242	45	8	June 1962	3-year
Banking (27 areas) - - - - - - - - - -	602, 603	2/33	20	November-December 1964	5-year
Contract cleaning services (20 areas) - - - - - - - - - - - - -	734	3/32	8	Summer 1961	3-year

Table 19. Industry Wage Surveys Giving Occupational Employment Data--Continued

Industry surveyed	SIC number	Percent of industry employment within scope 1/	Minimum establishment size	Latest period covered	Proposed recurring cycle
Regional and area studies					
Sawmills and planing mills (West Coast) - - - - - - - - - - -	part of 2421	32	20	June 1964	5-year
Auto dealer repair shops (34 areas) - - - - - - - - - - - - -	551	2/27	20	August-October 1964	5-year
Fluid milk (27 areas) - - - - - - -	2026	24	20	September-October 1964	5-year

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1/ Proportion production workers covered by scope of industry wage survey are of production workers reported in the BLS payroll employment series ("Employment and Earnings Statistics") for the same time period.

2/ Proportion total employment covered by scope of industry wage survey is of total employment reported in the BLS payroll employment series for same time period.

3/ Percent total employment within the scope of the survey is to total workers reported in the 1963 Census of Business.

Note: The communications industry wage surveys are not included in this table as they are included with regulatory agency data.

Table 20. Occupational Employment Data Obtained from Selected Industry Wage Surveys

Occupation 1/	Industry	Year studied (latest)	Reported employment	Estimated employment 2/
Waiters and waitresses	Eating and drinking places	1963	484,866	633,000
Sewing machine operators	Men's and boys' shirts and nightwear	1964	57,237	62,400
Sewing machine operators	Work clothing	1964	41,384	45,100
Sewing machine operators	Men's and boys' suits and coats	1963	34,895	37,900
Weavers 3/	Textile, cotton, synthetic, and wool	1962-63	33,683	37,000
Winders, all types 3/	Textile, cotton, synthetic, and wool	1962-63	31,399	34,600
Spinners 3/	Textile, cotton, synthetic, and wool	1962-63	28,751	31,600
Linemen	Electric and gas utilities	1962	20,087	25,400
Selectors	Pressed or blown glass	1964	18,942	24,100
Injection molding machine operators	Miscellaneous plastics products	1964	19,544	23,300
Finishers, molded plastic products	Miscellaneous plastics products	1964	18,277	21,800
Loom fixers 3/	Textile, cotton, synthetic, and wool	1962-63	16,944	18,600
Servicemen, gas and electric	Electric and gas utilities	1962	14,467	18,400
Stitchers	Footwear	1962	15,012	16,900
Chippers and grinders	Iron and steel foundries	1962	14,827	15,800
Meter readers	Electric and gas utilities	1962	12,199	15,400
Battery hands 3/	Textile, cotton, synthetic and wool	1962-63	13,390	14,700
Doffers, spinning frame 3/	Textile, cotton, synthetic, and wool	1962-63	13,363	14,700
Sanders, hand and machine	Wood household furniture	1962	12,155	14,100
Truckers, hand (including bobbin boys 3/	Textile, cotton, synthetic, and wool	1962-63	11,528	12,700
Assemblers, wood	Wood household furniture	1962	10,143	11,800

See footnotes on next page.

Table 20. Occupational Employment Data Obtained from Selected Industry Wage Surveys--Continued

Occupation 1/	Industry	Year studied (latest)	Reported employment	Estimated employment 2/
Packers, hand (fancy and bulk) - - - - - - - - - - - -	Candy and other confectionery	1960	10,040	11,300
Presser and underpresser - - - - -	Men's and boys' suits and coats	1963	10,319	11,200
Loopers, toe - - - - - - - - - - - -	Hosiery	1964	9,850	10,200

1/ Occupations with estimated employment of 10,000 or more within specific industries covered by Industry Wage Surveys. Excludes occupations covered by Community Wage Surveys.

2/ Reported employment inflated to account for the percent of total industry employment not within the scope of the industry wage survey as shown in table 19.

3/ Estimated employment in selected occupations concentrated in the textile industry are derived from three separate industry wage surveys--Cotton Textiles, May 1963; Synthetic Textiles, May 1963; and Wool Textiles, June 1962.

Surveys of Professional, Administrative, Technical, and Clerical Pay

The Bureau of Labor Statistics surveys of professional, administrative, technical, and clerical pay include the following occupations not covered in the Community Wage Surveys:

Accountants and auditors
Attorneys
Chemists
Engineers
Engineering technicians
Job analysts
Directors of Personnel
Managers, office services

Collection is limited to the same metropolitan areas and industries covered by the CWS. Only units with 250 employees or more, are surveyed. In 1964, the sample for professional and administrative occupations included about 1,800 establishments, almost all of which were also in the CWS sample. Because of the limited sample size for many industries, and the exclusion of units with fewer than 250 employees, it is doubtful that reliable estimates of occupational employment are obtained.

Local Area Occupational Information

Occupational employment information, other than that in the population censuses, has been gathered for a large number of local labor areas. The data are valuable for manpower analysis of the areas surveyed, but are generally of limited assistance in making national estimates.

Since 1956, Area Skill Surveys have been made for over 160 local labor areas by State Departments of Labor or local Employment Service offices, frequently with sponsorship of local agencies such as Chambers of Commerce. Technical assistance and funds are provided by the U.S. Bureau of Employment Security. Some of the Area Skill Surveys contain demand and supply information for specific occupations or occupational groups, showing current employment, growth in employment expected, estimated attrition, local new entrants needed, and estimates of the future labor supply. However, the areas surveyed are not selected to be representative of the entire country, the surveys are not undertaken at regular intervals, and the amount of information provided varies greatly from area to area. The number of occupations for which data are gathered ranges from a half dozen to over a thousand. In a few of the skill surveys, occupational distributions are shown for specific industries. These data are usually not in great detail.

Occupational Guides (published as Guide to Local Occupational Information), each referring to a single occupation or occupation group in a local area, provide information on the numbers employed as well as other characteristics of the occupation. Since 1955, over 1,500 Guides have been prepared by the various State Employment Service agencies. A listing of the Area Skill Surveys and Occupational Guides completed through 1964 is contained in Job Opportunities Information of February 1965. 18/

In addition to the Area Skill Surveys, and Occupational Guides, at least a few other studies provide data on employment by occupation in state or local labor areas. Probably the most important, in terms of the number of workers covered and the occupations surveyed are studies by the New York State Department of Labor. In a 1962 survey, data were collected on the employment in New York of scientists, engineers and 15 technical occupations. Detailed information was also developed on the skill requirements and other characteristics of employment in technical occupations. 19/ Earlier surveys by the State of New York provide information on employment and the outlook for metalworking craftsmen 20/ and for 36 professional, technical, skilled and semiskilled occupations in electronics manufacturing. 21/

18/ Job Opportunities Information, U.S. Department of Labor, Bureau of Employment Security, February 1965.

19/ Technical Manpower in New York State, New York State, Department of Labor, Division of Research and Statistics, 1964.

20/ Manpower in Selected Metal Crafts, New York State, State of New York, Department of Labor.

21/ Manpower Requirements in Electronics Manufacturing--outlook to 1964 in the New York Metropolitan Area, New York State Department of Labor, 1960.

Appendix A. Estimated Employment by Occupation from All Sources, Other Than the Population Census

The accompanying table brings together employment data by detailed occupation published by various sources other than the decennial census, for the years 1960-65. It is not all inclusive. As a practical consideration, occupational employment statistics which cover only comparatively few workers have been omitted. Employment data from one source which duplicate more comprehensive data from another source also have been excluded. Despite the omissions, the table presents a useful unduplicated count of available detailed occupational employment data.

Appendix Table 1. Estimated Employment by Occupation (from Sources Other Than the Population Census), U.S., 1960-65

Note: Concepts relating to occupational data compiled by different sources tend to vary with respect to time (e.g., annual average versus employment in a single month), coverage (e.g., all employees, full-time equivalents, etc.), and in other ways. The reader is cautioned, therefore, to familiarize himself with the different concepts as explained in the discussion of each source, or by examining the basic reports, before using these data.

Footnote references are to general sources of statistics.

Occupation	Employment (in thousands)					
	1960	1961	1962	1963	1964	1965
Total 1/	66,681	66,796	67,846	68,809	70,357	72,179
Professional and technical 1/	7,475	7,705	8,040	8,263	8,550	8,883
Medical and other health 1/	1,299	1,328	1,353	1,351	1,405	1,486
Physician 2/	224	231	239	248	255	
Dentist 3/	87	88	89	89	90	
Nurse, professional 4/	504		550		582	
Nurse, student 4/	119	123	124	125		
Osteopath 5/	12	12	11	11	11	
Pharmacist 6/	117	117	117	117	118	
Podiatrist 7/			8	8	8	
Veterinarian 8/	20		21		20	
Teacher, except college 1/	1,620	1,642	1,713	1,817	1,878	1,881
Teacher, elementary schools 9/	952	984	1,002	1,026	1,053	1,092
Teacher, secondary schools 9/	580	610	655	690	743	789

See footnotes at end of table.

Appendix Table 1. Estimated Employment by Occupation (from Sources Other Than the Population Census), U.S., 1960-65--Continued

Occupation	Employment (in thousands)					
	1960	1961	1962	1963	1964	1965
Other professional and technical 1/	4,555	4,735	4,974	5,095	5,267	5,516
College instructional staff 9/	283	296	313	336	358	389
Librarian 10/	62	63	66	69	73	77
Architect - registered 11/	26		27		30	
Forester 12/		18				
Engineers, private industry 13/	649	651	685			
Engineers, Federal Government 14/	60	58	66			
Engineers, State government 15/			34			
Engineer, colleges and universities 16/		24				
Chemist, private industry 13/	77	82	82			
Chemist, Federal Government 14/	6	6	7			
Chemist, State government 15/			1			
Chemist, colleges and universities 16/		15				
Other natural scientist, private industry 13/	87	82	85			
Other natural scientist, Federal Government 14/	38	43	44			
Other natural scientist, State government 15/			12			
Other natural scientist, colleges and universities 16/		77				
Draftsmen, private industry 13/	210	204	213			
Draftsmen, Federal Government 14/	6	6	5			
Draftsmen, State government 15/			7			
Engineering and physical science technician, private industry 13/	285	245	255			

Appendix Table 1. Estimated Employment by Occupation (from Sources Other Than the Population Census), U.S., 1960-65--Continued

Occupation	Employment (in thousands)					
	1960	1961	1962	1963	1964	1965
Engineering and physical science technician, Federal Government 14/	43	47	51			
Engineering and physical science technician, State government 15/			42			
Medical, agricultural, and biological technician, private industry 13/	16	13	17			
Medical, agricultural, and biological technician, Federal Government 14/	13	13	13			
Medical, agricultural, and biological technician, State government 15/			6			
Other technician, private industry 13/	83	111	101			
Other technician, Federal Government 14/	1	1				
Other technician, State government 15/			2			
Air traffic controller, Federal Government, F.A. 17/	12	13	13	13	13	12
Airplane pilot, U.S. Air Carrier 18/	14	14	14	14	15	16
Internal Revenue agent - Federal Government IRS 14/	12	12	13		13	
Accountant - Federal Government 14/	24	24	23		25	
Personnel and labor relations workers Federal Government 14/	21	22	24		25	
Social welfare workers 19/	116					
Managers, officials, and proprietors 1/	7,067	7,119	7,408	7,293	7,452	7,340
Salaried workers 1/	3,524	3,750	4,053	4,148	4,296	4,427
Conductor, Class I railroads 20/	39	37	37	37	37	

Appendix Table 1. Estimated Employment by Occupation (from Sources Other Than the Population Census), U.S., 1960-65--Continued

Occupation	Employment (in thousands)					
	1960	1961	1962	1963	1964	1965
Postmaster - Federal Government 21/ - - - - -	35	35	35	34	34	33
Purchasing agent, Federal Government 14/ - -	14	15	17			
Self-employed, retail trade 1/ - - - - - - - - -	1,767	1,664	1,583	1,441	1,474	1,389
Self-employed, except retail trade 1/ - - - - -	1,776	1,705	1,773	1,704	1,682	1,524
Clerical workers 1/ - - - - - - - - - - - - - - -	9,783	9,861	10,107	10,270	10,667	11,166
Stenographers, typists, and secretaries 1/ - -	2,386	2,405	2,511	2,631	2,708	2,880
Stenographers, typists, and secretaries Federal Government 14/ - - - - - - - - - - -	156	169	178		180	
Other clerical workers 1/ - - - - - - - - - - -	7,397	7,456	7,596	7,639	7,959	8,286
Office machine operator, Federal Government 14/ - - - - - - - - - - - - - - -	25	23	23		24	
Postal clerk, Federal Government P.O. 21/ - -	237	241	242	242	242	252
Mail carrier, Federal Government P.O. 21/ - -	190	196	204	199	202	207
Stock clerk and storekeeper, Federal Government 14/ - - - - - - - - - - - - - - -	28	29	27		29	
Claims examiner, Federal Government 14/ - - -	12	14	14			
Telephone operator, telephone and telegraph industries 22/ - - - - - - - - - -	218	199	190	191	194	
Telephone operator, Federal Government 14/- -	7	7	7			
Telegraph operator, telegraph industry 23/- -	9	8	7	7	6	
Telegraph messenger, telegraph industry 23/ -	6	6	5	5	5	
Meter reader, electric and gas utilities 24/ - - - - - - - - - - - - - - - -			15			
Mail and file clerk, Federal Government 14/ -	25	25	25		24	

Appendix Table 1. Estimated Employment by Occupation (from Sources Other Than the Population Census), U.S., 1960-65--Continued

Occupation	Employment (in thousands)					
	1960	1961	1962	1963	1964	1965
Sales workers [1]	4,401	4,439	4,346	4,356	4,456	4,715
Retail trade [1]	2,591	2,586	2,529	2,582	2,635	2,877
Other sales workers [1]	1,810	1,853	1,817	1,774	1,821	1,838
Craftsmen and foremen [1]	8,560	8,623	8,678	8,924	8,986	9,221
Carpenter [1]	832	815	812	814	820	850
Carpenter, Federal Government [25]	14	14	14			
Mechanic and repairman [1]	2,017	2,122	2,145	2,206	2,226	2,337
Mechanic, automotive, Federal Government [25]	18	19	18			
Airplane mechanic and maintenance U.S. Civil Air Carriers [18]	34	34	35	35	39	41
Serviceman, electric and gas utilities [24]			18			
Construction craftsman (except carpenter) [1]	1,722	1,691	1,705	1,796	1,793	1,839
Painter and paperhanger, Federal Government [25]	14	14	14			
Plumber and pipefitter, Federal Government [25]	17	18	18			
Metal craftsman (except mechanic) [1]	1,090	1,021	1,046	1,079	1,091	1,112
Other craftsmen and kindred workers [1]	1,762	1,825	1,751	1,786	1,831	1,818
Foreman, telephone craftsman, telephone industry [22]	26	26	26	26	27	
Central office craftsman, telephone industry [22]	58	59	62	23	66	

Appendix Table 1. Estimated Employment by Occupation (from Sources Other Than the Population Census), U.S., 1960-65--Continued

Occupation	Employment (in thousands)					
	1960	1961	1962	1963	1964	1965
Installation and exchange repair, telephone industry 22/	71	72	73	75	78	
Line, cable and conduit crafts, telephone industry 22/	43	39	38	37	38	
Lineman, electric and gas utilities 24/			25			
Locomotive engineer, Class I railroads 20/	36	34	34	34	34	
Locomotive fireman, Class I railroads 20/	39	37	37	36	30	
Loom fixer - textile - cotton, wool and synthetic 26/				19		
Foreman, n.e.c. 1/	1,137	1,149	1,218	1,243	1,225	1,265
Operatives 1/	11,986	11,762	12,041	12,507	12,924	13,390
Driver and deliveryman 1/	2,375	2,351	2,352	2,446	2,511	2,505
Truck or auto driver, Federal Government 25/	27	26	26			
Other operative 1/	9,611	9,411	9,689	10,061	10,413	10,885
Brakeman and switchman, Class I railroads 20/	90	84	84	82	81	
Sewing machine operator, men's and boys' shirts and nightwear 27/		59			62	
Sewing machine operator, work clothing 29/		43			45	
Sewing machine operator, men's and boys' suits and coats 28/				38		
Presser and underpresser, men's and boys' shirts and nightwear 27/		11			10	
Presser and underpresser, men's and boys' suits and coats 28/				11		

Appendix Table 1. Estimated Employment by Occupation (from Sources Other Than the Population Census), U.S., 1960-65--Continued

Occupation	Employment (in thousands)					
	1960	1961	1962	1963	1964	1965
Selector, pressed or blown glass 30/	20				24	
Stitcher, all types - footwear 31/			17			
Finisher, miscellaneous plastics products 32/	17				22	
Injector molding machine operator - miscellaneous plastics products 32/	15				23	
Chipper and grinder, iron and steel foundries 33/			16			
Looper, toe, hosiery 34/			14		10	
Knitter, hosiery 34/			14		9	
Sander, hand and machine - wood household furniture 35/			14			
Assembler, wood, wood household furniture 35/			12			
Packer, hand, candy and other confectionery 36/	11					
Weaver, textiles, cotton, wool and synthetics 26/				37		
Winder, all types, textiles, cotton, wool and synthetics 26/				35		
Spinner, textiles, cotton, wool and synthetics				32		
Battery, hand, textiles, cotton, wool and synthetics 26/				15		
Doffer, spinning frame, textiles, cotton, wool and synthetics 26/				15		
Service workers 1/	8,349	8,640	8,802	9,032	9,256	9,342
Private household worker 1/	2,216	2,317	2,341	2,306	2,322	2,250
Service worker (except private household) 1/	6,133	6,323	6,461	6,726	6,934	7,091

Appendix Table 1. Estimated Employment by Occupation (from Sources Other Than the Population Census), U.S., 1960-65--Continued

Occupation	Employment (in thousands)					
	1960	1961	1962	1963	1964	1965
Protective service worker 1/	766	775	805	846	891	874
Guard or watchman, Federal Government 14/	15	14	15		13	
Fireman, fire protection, Federal Government 14/	12	12	12		11	
Policeman, city and county government 37/	176	176	180	182	181	
F.B.I. Agent, Federal Government, F.B.I. 38/			6	6	6	
Waiter, cook or bartender 1/	1,676	1,715	1,774	1,866	1,911	1,958
Waiter or waitress, eating and drinking places 39/				633		
Cook, Federal Government 25/	8	7	7			
Other service worker 1/	3,690	3,833	3,882	4,014	4,132	4,259
Airline stewardess, U.S. Civil Air Carriers 18/	11	12	12	13	15	17
Nursing assistant, Federal Government 14/	35	36	36		36	
Laborers, except farm and mine 1/	3,665	3,477	3,559	3,551	3,624	3,855
Construction 1/	797	750	747	730	787	805
Manufacturing 1/	1,137	986	1,017	1,003	1,027	1,091
Trucker, hand (including bobbin boys) textiles, cotton, wool and synthetics 26/				13		
Other industries 1/	1,730	1,741	1,796	1,818	1,810	1,959
Mail handler, Federal Government 21/	29	30	31	31	32	32

Appendix Table 1. Estimated Employment by Occupation (from Sources Other Than the Population Census), U.S., 1960-65--Continued

Occupation	Employment (in thousands)					
	1960	1961	1962	1963	1964	1965
Farm workers 1/	5,395	5,170	4,886	4,615	4,444	4,265
Farm and farm manager 1/	2,780	2,711	2,595	2,396	2,320	2,244
Farm laborers and foreman 1/	2,615	2,459	2,271	2,219	2,124	2,021
Paid worker 1/	1,572	1,489	1,382	1,397	1,324	1,249
Unpaid family worker 1/	1,043	970	889	822	800	772

1/ Monthly Report on the Labor Force, Bureau of Labor Statistics, U.S. Department of Labor, (Beginning with February 1966, these data are published in Employment and Earnings and Monthly Report on the Labor Force.)

2/ AMA Directory Report Service, Chicago, American Medical Association. Quarterly.

3/ Distribution of Dentists in the U.S., by State, Region, District, and County, Chicago, American Dental Association. Annually.

4/ Facts About Nursing, New York, N.Y., American Nurses' Association. Annual report; employment data shown only for even years.

5/ A.O.A. Yearbook and Directory, Chicago, American Osteopathic Association.

6/ N.A.B.P. Bulletin (Winter edition), Chicago, National Association of Boards of Pharmacy. (Through 1962, totals are for 48 states plus District of Columbia.)

7/ Journal of American Podiatry Association, Chicago, American Podiatry Association. Various issues.

8/ A.V.N.A. Directory, Chicago, American Medical Veterinary Association. Biennially.

9/ Projections of Educational Statistics, U.S. Department of Health, Education, and Welfare, Office of Education. Annually.

10/ Digest of Educational Statistics, U.S. Department of Health, Education, and Welfare, Office of Education. Annually.

11/ Unduplicated count of architects registered in each State compiled by the National Council of Architecture Registration Boards, Architectural Institute of America, Washington, D.C.

12/ Eyre, F.H., "How Many Foresters," Journal of Forestry, July 1962, pp. 499-500. Washington, D.C., Society of American Foresters.

Footnotes--Continued

13/ Surveys of employment of scientific and technical personnel in industry, U.S. Department of Labor, Bureau of Labor Statistics. Annually except in 1965.

14/ Occupations of Federal White-Collar Workers, U.S. Civil Service Commission. Annually for 1960 and 1961; and unpublished tabulations by the Commission, for 1962 and 1964.

15/ Surveys of employment of scientific and technical personnel in State government agencies, U.S. Department of Labor, Bureau of Labor Statistics; biennially.

16/ Professional Manpower Resources in Colleges and Universities, National Science Foundation. NSF-65-8 (1964).

17/ ATS Fact Book, Federal Aviation Agency, Semiannually.

18/ FAA Statistical Handbook of Aviation, Federal Aviation Agency. Annually.

19/ Salaries and Working Conditions of Social Welfare Manpower in 1960, Social Welfare Assembly, Inc., New York, N.Y.

20/ Statement No. M-300, Wage Statistics of Class I Railroads, Interstate Commerce Commission. Annual issues.

21/ Monthly tabulation of employees on payroll, Post Office Department, Bureau of Finance and Administration.

22/ Wage surveys of communications industry, U.S. Department of Labor, Bureau of Labor Statistics; Annually. Also, The Annual Statistical Volume, Washington, D.C., United States Independent Telephone Association.

23/ Wage surveys of communications industry, U.S. Department of Labor, Bureau of Labor Statistics. Annually.

24/ Wage surveys of the electric and gas utilities industry, U.S. Department of Labor, Bureau of Labor Statistics.

25/ Occupations of Federal Blue-Collar Workers, U.S. Civil Service Commission for 1960 and unpublished tabulations by the Commission for 1961 and 1962.

26/ Wage surveys of the textile (cotton, wool, and synthetic) industry, U.S. Department of Labor, Bureau of Labor Statistics.

27/ Wage surveys for men's and boys' shirts and nightwear industry, U.S. Department of Labor, Bureau of Labor Statistics.

28/ Wage survey of men's and boys' suits and coats industry.

29/ Wage surveys of the work clothing industry. U.S. Department of Labor, Bureau of Labor Statistics.

30/ Wage surveys of the pressed or blown glass industry, U.S. Department of Labor, Bureau of Labor Statistics.

31/ Wage surveys of the footwear industry, U.S. Department of Labor, Bureau of Labor Statistics.

32/ Wage surveys of the miscellaneous plastics products industry, U.S. Department of Labor, Bureau of Labor Statistics.

33/ Wage surveys of the iron and steel foundries industry, U.S. Department of Labor, Bureau of Labor Statistics.

Footnotes--Continued

34/ Wage surveys of the hosiery industry, U.S. Department of Labor, Bureau of Labor Statistics.

35/ Wage surveys of the wood household furniture industry, U.S. Department of Labor, Bureau of Labor Statistics.

36/ Wage survey of the candy and other confectionery industry, U.S. Department of Labor, Bureau of Labor Statistics.

37/ Crime in the United States; data compiled from Uniform Crime Reports by the Federal Bureau of Investigation. Annually.

38/ Data obtained directly from personnel records of the Federal Bureau of Investigation.

39/ Wage survey of the eating and drinking places industry, U.S. Department of Labor, Bureau of Labor Statistics.